Regional Revenue Source Analysis

DRAFT

Prepared for

Tahoe Regional Planning Agency

Submitted by

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In collaboration with

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INTRODUCTION AND OVERVIEW

Lake Tahoe is generally recognized as a natural resource without rival. Its extraordinary alpine setting in conjunction with unusual geologic features have resulted in a lake with uncommon clarity, which is widely recognized as its singularly unique characteristic. This peerless natural setting has resulted in over 50,000 persons electing to reside in the Tahoe Basin, 2.3 million persons annually visiting the Basin and several hundred businesses locating in the region, seeking to meet the needs of both groups. Through the leadership of the Tahoe Regional Planing Agency (TRPA), a broad technical consensus has emerged that the intense utilization of the Tahoe Basin has resulted in the measurable diminution of Lake Tahoe's clarity.

To forestall the further deterioration in the environmental quality of Lake Tahoe, TRPA has identified a $900 million investment program. This program, referred to as the Environmental Improvement Program (EIP), has over 1,000 projects in nine environmental categories. Again, there is a general consensus within the Basin community and among state and federal officials that the program is necessary if the Lake is retain it uniqueness. To this end, the states of Nevada and California have already made significant investments in preserving the basin and continue to seek long term funding for the EIP. The federal government is also making effort to provide long term contributions towards the implementation of the EIP. The private sector—the Tahoe Basin's businesses both large and small—has made forward progress in their efforts as well. The residents, acting through their local governments with jurisdiction within the Basin, and visitors are also obligated to contribute.

To ensure that the EIP is implemented, a partnership had been formed of the Basin's businesses, government agencies directly responsible for resource management within the Basin and environmental interests concerned with the overall integrity of the Tahoe environment. TRPA is acknowledged to be the managing partner responsible for implementing this complex enterprise. The Partners recognize that the greatest near-term challenge they face is raising the $200 million from the Basin's users—the residents and visitors. How to raise this money is at the intersection of politics and policy, values and beliefs. It is recognized as being difficult and without an easy prescription.

The Partners, 21 local entities who made a financial commitment to the revenue study, are a unique feature of this engagement. They represent a variety of interests in the Basin and

were available to the consulting team. Indeed, some of the Partners were interviewed during the study and all were invited to three workshops that were held. The Partners were not passive participants. They made useful contributions to the study and, as will be explained later, they insisted that the range of revenue sources to be analyzed be expanded. The Partners were a unique resource and positive influence on the character of this study.

Arthur Bauer & Associates was retained by TRPA to identify an array of revenue generating options, determine the amount of funds they would produce over a decade, identify any possible institutional and legal constraints to their implementation and determine the actions necessary to implement the funding sources. The objective of this analysis was to create a foundation upon which TRPA and its partners could develop alternative funding strategies to meet the obligations that the visitors and residents have to financing the EIP.

The Environmental Improvement Program

The creation of the Environmental Improvement Program (EIP) by the TRPA seeks to accomplish the goal of preserving the Tahoe Basin's unique natural amenities. The EIP document describes projects, programs, studies, proposed schedules and regulatory strategies for achieving the enhancement and protection of the Basin. It serves as a regional action plan that will balance the interface between nature and the human environment.

The EIP is a strategic action plan to preserve, restore and enhance the Lake Tahoe Region. The program is developed to achieve the environmental threshold carrying capacity (ETCC) standards required by Public Law 96-551 and adopted by the TRPA in 1982. Nine general environmental categories are identified for which ETCC standards are applied. The categories are: water quality, soil conservation, air quality, vegetation, fisheries, wildlife, scenic resources/community design, recreation and noise.

A central feature of the program is its reliance on partnerships with all sectors of the community, including the private, community organizations, local government, state and federal government, working together through a coordinated and integrated effort. Thirty-five public agencies and private entities have been identified as participants in the EIP.

The current version of the EIP contains over $900 million in specific capital improvement projects will be implemented over a ten year period. Table I-1 summarizes the projects by category and funding contributions from the various participating community sectors. Approximately $18 million in research and program needs has also been identified. In addition, maintenance and operations costs for the program elements are currently estimated at $10 million per year.

President Clinton has committed the federal government through its agencies with resources management responsibilities in the Basin to implementing the EIP. Similarly,

Governor Wilson of California and Governor Miller of Nevada have renewed State commitments to the attainment of the environmental thresholds.

Table I-1

Summary of Ten Year EIP Project Capital Needs Apportioned by Community Sector

Threshold Program	Federal Government	State of California	State of Nevada	Private Sector	Local Government	TOTAL $ (millions)
Water Quality	$116.2	$ 88.0	$30.4	$ 75.0	$ 41.0	$350.6
Soil Conservation	93.2	74.2	12.9	1.2	11.2	192.7
Air Quality	17.7	41.8	19.5	28.1	22.0	129.1
Vegetation	23.8	7.2	5.6	6.0	0.0	42.6
Wildlife	11.1	3.6	1.2	0.0	1.3	17.2
Fisheries	20.4	20.4	5.9	9.9	9.2	65.8
Recreation	10.1	35.2	4.2	10.8	9.8	70.1
Scenic	4.7	4.7	2.3	21.7	6.5	39.9
Total	$297.2	$275.1	$82.0	$152.7	$101.0	$908.0

The EIP strategy is driven by a set of core objectives which provide a focus for enhancement and protection of natural resources and a means for leveraging agency and community relationships to carry out the program. The objectives of the EIP are as follows:

- To provide a mechanism to focus implementation efforts region-wide.
- To integrate and organize threshold needs in one place or format.
- To coordinate multiple agency work programs relative to threshold related objectives.
- To facilitate public/private partnerships and agreements on priorities.

- To leverage human, organization operation, and capital improvement resources.

- To foster and create long term program investment commitments from all community sectors private, local government, state, and federal government.

Methodology Overview

This study involved many activities, including meetings with stakeholders. Those interviewed included individuals representing a variety of interests concerned with the economic and environmental welling being of the Tahoe Basin. Other interviews were conducted with public officials--both elected and administrative--at both the local and state level in California and Nevada. Throughout the study individuals with special technical knowledge or knowledge of the Tahoe Basin market were consulted. Finally, the consultants remained in close contact with the TRPA staff. A summary of our activities included the following:

- Interviewed 23 stakeholder and public officials;

- Consulted with 65 technical experts--the majority of whom were from local agencies--for data input Each local expert, both in the private and public sectors, provided key data for formulating the assumptions that went into generating the quantitative revenue estimates;

- Consulted with State officials in California and Nevada, federal officials, as well as individuals from private firms and local agencies outside the Lake Tahoe Basin Region for information. In addition, significant information was collected and reviewed from over 25 public documents published by local and state agencies such as TRPA, Caltrans, State of Nevada, visitor bureaus in the Basin and the federal Environmental Protection Agency;

- Reviewed revenue sources;

- Consulted with study funding partners, including holding three workshops;

- Conducted three focus groups, one in Sacramento that included day and overnight visitors and second home owners, and two in the Tahoe Basin with select groups of residents;

- Conducted a public opinion survey of Tahoe Basin residents. Drawing on the

findings of the focus groups, discussions with TRPA staff and the preliminary findings of the funding analysis, a questionnaire was prepared for administration by telephone to a valid sample of 507 persons residing in the Tahoe Basin. (The results of the public opinion survey are contained in a separate report.)

These activities allowed Arthur Bauer & Associates to gain considerable familiarity with Basin issues, and to learn the perspectives of the various individuals and organization that have a stake in the implementation of the EIP.

Principle Findings

This study identified and analyzed twenty revenue sources that could be used to formulate a strategy to fund the Environmental Improvement Program. The results of the analysis are found in summary form below in Table I-2. The remaining chapters of the report contain the detail financial and institutional analysis.

Table I-2

Ten Year Gross Revenue Estimate by Source

Source	Increment of Tax, Fee or Charge above Current Rate	10 Year Revenue Total
Basinwide Sales Tax	½ percent	$ 33,206,569
Basinwide Fuel Tax	$0.02 / gallon	6,694,469
Basin Impact Fee	$2 / vehicle	189,765,516
TOT on visitor accommodations	2 percent	$ 42,714,284
TOT on campgrounds and RV parks	10 percent 2 percent SLT *	2,641,412
Parking Charges	$2 / vehicle	40,450,722
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Scenic Drive Fee	$2, $3 / vehicle **	37,606,969
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Launch Fee	$3 / launch	1,366,952
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Fire Suppression	$50 / parcel	$ 23,014,000
Assessment for Curb/Gutters (non- residential, non-open space parcels only)	$50 / parcel	818,000
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Source	Increment of Tax, Fee or Charge above Current Rate	10 Year Revenue Total
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Vehicle Registration Fee in Northern California Counties	$1 / registration	$ 64,522,737
Gas Tax in Northern California Counties	$0.01 / gallon	396,805,639
Vehicle Registration Fee in Nevada Counties	$1 / registration	3,332,485
Gas Tax in Nevada Counties	$0.01 / gallon	20,416,501

Notes:

* A 2% TOT rate is applied to sites in the City of South Lake Tahoe since TOT is already being collected. All other campgrounds and RV parks are assessed a 10% TOT rate.

** A $2 fee per vehicle is for Fallen Leaf Lake, and a $3 fee per vehicle is for Emerald Bay. A $15 annual pass is also assumed.

1. FORMULATION OF OBJECTIVES

The extensive number of one-on-one interviews conducted during this study served to familiarize the consulting team with the issues in the Tahoe Basin from a variety of perspectives. The information and insights gained from the interviews aided in refining the project objects and determining the final candidate revenue sources.

Insights from the Interviews

As a result of the interviews we learned the following:

- It is widely recognized that there is a relationship between the quality of the environment, especially the clarity of Lake Tahoe, and the economic health of he Tahoe Basin.

- Automobile traffic and the street and highway network are considered by most interviewed as having a seriously degrading impact on the environment of the Tahoe Basin.

- There is a commitment to make transit alternatives for visitors and resident to work and a willingness to experiment with different forms of transit services and institutional arrangements to provide those services.

- It is recognized that the federal government and the states of Nevada and Californian are making substantial commitments to the EIP program.

- Nevada is recognized as having made substantial state commitment to improving the Tahoe Basin through the enactment of two statewide bond measures and that California has demonstrated a commitment for improving the quality of Tahoe's environment through the Tahoe Conservancy.

- Many are fearful that the added tax burden and the added cost to the private sector for funding the EIP will price the Tahoe Basin "out of the market". Moreover, there is a perception that taxes, development fees and other similar government imposts are higher than in most communities.

- The redevelopment efforts of the City of South Lake Tahoe, and the partnership between the businesses in Tahoe City and the local agencies to finance and develop the Tahoe City Urban Improvement Program are suggested as models for effective public-private partnerships.

- The increase in day users due to population growth in the nearby counties of Washoe, Carson City, Douglas, El Dorado, Placer and Sacramento is changing the economics of tourism in that the revenue generated per visitor is substantially less than the revenue generated by the overnight visitor.

- Day users are perceived as a prime contributor to excessive traffic and parking problems.

- It is recognized that there is a tension between the need for developing additional destination-oriented activities to attract more long-term visitors and improving the quality of the Basin's environment.

- "Local" is a complex term in the Tahoe Basin when discussing raising revenues from the local economy. Everyone agreed it included permanent residents, but there was an uncertainty regarding the contribution that they should make to the EIP. Most interviewed would at some point include second homeowners as having at least a "local interests" in the Basin, but because most are not locally registered to vote, they were not considered local in the sense of residents. Other suggested that perhaps the term "local" really included visitors and residents. Persons with this perspective argued that both residents and visitors are attracted to the Basin due to its physical beauty.

- Some suggested that elements of the EIP funding program should be used to influence the behavior of how people interact or use the Tahoe Basin.

Project Objectives

These interviews allowed us to refine our operating objectives for the study prior to beginning the analysis of revenue sources. The operating objectives that were used for the analysis are the following:

- Achieve a ten-year target of approximately $200 million for the EIP from local and visitor sources;
- Produce a reasonably predictable stream of revenue;
- Keep cost of collection and administration relatively modest when compared to the revenues generated; and
- Focus on raising revenue for funding the EIP, not changing behavior toward the use of the Tahoe Basin's resources.

The selection of objectives established a framework for considering the merits of the revenues.

2. SELECTION OF REVENUES

In addition to the objectives, Arthur Bauer & Associates developed a set of principles to aid in further refining the selection of funding sources. These principles were derived from the interviews with stakeholders and from our experience with evaluating funding sources in conjunction with other complex investment programs. The principles are:

- Tax revenues must support clearly identified projects.
- Projects must have clearly recognizable benefits.
- A relationship must exist between those who pay for public improvements and those benefit.
- A cooperative relationship among governments and between government and the private sector is necessary.

Screening of Revenue Sources

Twenty revenue sources were selected for analysis. These sources were selected from an array of taxes, fees and charges that could be imposed by government in some fashion. The process for defining 20 candidate funding sources was essentially one of elimination. First, the property tax was removed from consideration. Proposition 13 and related laws in California eliminate this source from being a viable revenue source.

Fees and exaction related to development were not included in the analysis. The reason for this is that TRPA and the local agencies in the Basin are already collecting revenues from this source and that a good deal of the revenue is committed to EIP projects.

Taxes related to personal income were excluded because local governments in California

do not generally collect such taxes and the State of Nevada does not have an income tax. In addition, it would be difficult to collect at the local or regional level.

Considerable thought was given to taxes and charges levied on products that contribute to the degradation of the Lake Tahoe environment, especially fertilizers. After researching this concept we concluded that although fertilizers and similar products are clearly contaminants, the collection of a fee or tax at the local level in the Tahoe Basin could easily be avoided by simply buying the product outside the Basin. A more feasible way of collecting a tax on this and other similar products is at the source of production or the first point of distribution. This is generally the approach used for collecting the gallonage tax on gasoline. Although a tax or charge on products of this type may be appropriate, the states are a better venue to levy, collect and distribute the revenues from a tax of this type.

Discharge fees were excluded for at least this analysis since there is no direct discharge of waste into the Lake and because of their use for improving existing facilities employed to transport waste out of the region. Other suggested taxes, fees and charges were excluded because they were considered difficult to administer or that the revenues generated were insufficient.

Candidate Revenue Sources

As a result of this scan and in consultation with the project's Partners, the following revenue sources were selected for analysis:

- Basinwide sales tax;
- Basinwide gas tax;
- Basin Impact Fee collected at the seven gateways to the Tahoe Basin;
- Transient occupancy tax on hotels, motels, and rental homes;
- Transient occupancy tax on public and private campgrounds and recreational vehicle facilities;
- Entertainment tax;
- Scenic view fee;
- Parking fee;

- Maintained trail fee;
- Parcel fee for fire protection/reforestation;
- Parcel fee for curbs and gutters on residential parcels;
- Parcel fee for curbs and gutters on non-residential parcels;
- Gas tax in twelve Northern California counties from which pollution is transported to the Basin and in which day users reside;
- Vehicle registration fee in twelve Northern California counties from which pollution is transported to the Basin and in which day users reside;
- Gas tax in three Northern Nevada counties in which day users reside;
- Vehicle registration fee in three Northern Nevada counties in which day users reside;
- Boat Fuel tax;
- Boat registration fee;
- Boat launching fee; and
- Boat slip and buoy fee

3. Revenue Generating Ability of Selected Funding Sources

In this section of the report the revenue generating capacity of the twenty funding sources is analyzed. Prior to initiating the analysis, a summary is provided of local activities currently occurring in the Basin that are funding EIP projects. This discussion of Baseline Revenues is followed by the analysis of the funding sources.

Baseline Revenues

The capital projects in the EIP that are at or near the implementation phase and funded from current revenue sources by the local governments with jurisdiction in the Basin are identified below. These revenues and project totals provide a baseline figure that can be used to refine the balance needed in local funds for the remaining EIP program. Below is a description of the funding sources or capital projects. Some of these expenses may not be directly attributable to the EIP but were cited by local governments as ongoing funding needs.

- TRPA assesses mitigation fees on development in the basin. The mitigation fees include water quality, air quality and wetland restoration fees. The fees are not technically collected by TRPA, but are kept in the reserves of the counties where the development occurs, and are used in the respective county for mitigation projects. The estimated balance available from these sources is approximately $6.6 million.

- The City of South Lake Tahoe is using funds primarily from California transportation sources for constructing several EIP projects. Between 1997 and 1999, South Lake Tahoe is funding $5.4 million in EIP projects in the City. They include: signal modification at Ski Run Boulevard; Bijou area water quality project; East Pioneer Trail water quality project; Sierra Tract Residential water

quality project; and Trout Creek-Pioneer to Black Bart Stream Environmental Zone restoration.

- The city also undertakes annual maintenance of streets. However, due to funding constraints the city has indicated that it is on a 33 year lifecycle for street overlays (generally, timely overlay must be done between every 10 and 15 years). South Lake Tahoe spends about $1.1 million per year on all maintenance work in the city, excluding snow removal.

- Douglas County has several projects in the basin for implementation in its fiscal year 1997-98 adopted capital budget. The projects include erosion control, water treatment, and mass transportation improvements for the Tahoe-Douglas Transportation District. Together the projects cost approximately $1.8 million.

- Tahoe City Public Utility District spends approximately $500,000 annually on environmental improvement or enhancement projects. They include erosion control, stabilization, trails, beaches, park facilities, pump station relocations and other enhancement projects.

- Placer County has undertaken the Tahoe City Urban Improvement Project, which includes projects in Tahoe City such as highway reconstruction, two off-street parking lots, sidewalks, curb and gutter, storm drainage, storm water treatment, ponds and wetlands. Total project cost is about $10.2 million. There are two phases for this improvement project, with the first phase completed in summer of 1997. Projects for the first phase included storm water collection, ponds and wetlands. The second phase will include the other improvement projects and span over a three-year construction season.

  The Tahoe City Urban Improvement Project is funded from numerous sources. They include: California Tahoe Conservancy; United States Forest Service; Federal Transportation Enhancement funds; Caltrans; North Lake Tahoe Resort Association; Tahoe City Public Utilities District; TRPA; property owners; Placer County Redevelopment; and miscellaneous County sources.

- Placer County is also active in providing various erosion control projects. The Public Works department budgets approximately $7.5 million annually to deliver erosion control projects on the North Shore. This amount is in addition to the amount for the Tahoe City Urban Improvement Project.

- There are over 100 miles of county roads to maintain in the Tahoe district of Placer County. Due to limited funding for maintenance in the basin area, the county can not meet the proper lifecycle for operations and maintenance needs. With the funds available for sealing work, Placer County spends about $85,000

annually on these efforts.

- Placer County, on behalf of the North Lake Tahoe Resort Association, began collecting a 2 percent increase in the transient occupancy tax in the County starting in October 1996. The revenues are dedicated to a series of infrastructure projects that are being constructed or have been approved on the north shore. The projects include the Tahoe City Urban Improvement Project; park and ride lots at Sunnyside, bike trails at Squaw and in Tahoe City; a milepost and public access signage program; and the intermodal transit center in Tahoe City. The potential Kings Beach sidewalk program may also be funded from this source. The TOT increase sunsets in six years, during which approximately $6 million is forecasted to be generated.

- Washoe County, Nevada Department of Transportation, and private property owners are engaging in a beautification program in the casino area in Crystal Bay. Sidewalks, street lighting, tree planting, and some storm water treatment comprise many of the projects. The beautification program will cost $1.6 million.

- South Tahoe Public Utility District spends approximately $200,000 on environmental projects, including pump stations and stream environmental zone restoration on the Upper Truckee River.

- The Coordinated Transit System (CTS) is a public-private partnership between local agencies and private entities in the South Lake Tahoe area to provide additional funding for coordinated transportation in the core areas. The CTS funds also allow major development projects to proceed, including the Ski Run and Park Avenue redevelopment projects, the Heavenly Ski Resort Master Plan and the South Tahoe Public Utility District Future Sewer Connections. The CTS has available in its mitigation fund about $500,000 at the beginning of 1998. The amount is approximately half of the system's revenue goal.

The summation of current funding for the EIP implementation of several capital projects as well as identified ongoing funding needs, as described above, is $41.4 million. It must be made clear that the amount is comprised of a mix of federal, state and local revenue sources. Table 1 summarizes this funding.

Table 1

Summary of Current EIP Funding by Local Agencies

Local Agency	Revenues	Purpose
City of South Lake Tahoe	$6,509,000	EIP Projects, Ops & Maint.
Douglas County	1,759,102	EIP Projects
Placer County	17,700,000	EIP Projects
Washoe County	1,600,000	EIP Projects
Tahoe City PUD	500,000	EIP Projects Annually
South Tahoe PUD	210,000	EIP Projects Annually
Coordinated Transit System Mitigation Fund	495,819	Available Funds
TRPA Mitigation Fees	6,614,279	Available Funds
North Lake Tahoe Resort Association	6,000,000	Forecasted Available Funds
Grand Total	$41,388,200	

Description of Potential Local Revenue Sources

The twenty revenue mechanisms identified as potential revenue sources for funding the local obligation for the EIP were organized into the following five broad categories of incidence. This is done to better understand where the greatest burden would rest for paying taxes, fees or assessments. The categories are:

- Basinwide
- Visitor Oriented
- Water Recreation Oriented
- Property Owner Oriented
- Inter-Regional

Within each category are various potential revenue sources. The revenue sources include, under their respective category:

Basinwide

- Sales Tax
- Fuel Tax
- Basin Impact Fee

Visitor Oriented

- Transient Occupancy Tax
- Parking charges
- Entertainment Tax
- Scenic Drive Fee
- Maintained Trail Fee

Water Recreation Oriented

- Boat Fuel Tax
- Registered Boat Fee
- Launch Fee
- Slip & Buoy Fee

Property Owner Oriented

- Parcel Fee for Fire Protection
- Parcel Fee for Curbs, Gutters and Drains

Inter-Regional

- Vehicle Registration Fee in Northern California and Nevada
- Fuel Tax in Northern California and Nevada

The potential revenues generated from these sources would provide a local match required for the EIP program. Table 2 identifies the revenue generated by each source.

Each potential revenue source was analyzed for its revenue producing capabilities. For simplicity reasons, assumptions were made as to the increase in the tax or fee in order to demonstrate the potential revenues that could be generated. In addition, the tax or fee rate assumptions were made to provide adequate revenue generation to meet the requirements of the EIP program. However, in the description of the revenue sources found below, a range of fees and taxes for each funding source and their revenue estimates is shown. The full quantitative methodology and supporting materials of the revenue program can be found in the Appendix, which is a separate volume.

The revenues forecasted for each source are independent of each other. In other words, the revenue total from a potential source is not dependent on the outcome of the revenue total from another source. Therefore, each revenue source can be analyzed independently, although it may likely be necessary to examine several sources as a package to arrive at the required funding needs of the local share of the EIP.

The revenues in Table 2 are arranged according to the five broad categories. The table shows each local revenue source and the assumed incremental fee or tax. The ten-year revenue estimate is included for each funding source as well as the summation of each broad category. The estimates are *gross* revenues, meaning that the associated capital and operations and maintenance expenses have not been deducted. Administrative and cost issues are addressed in the next Chapter.

Table 2

Ten-Year Gross Revenue Estimate by Source

Source	Increment of Tax, Fee or Charge above Current Rate	10 Year Revenue Total
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** A $2 fee per vehicle is for Fallen Leaf Lake, and a $3 fee per vehicle is for Emerald Bay. A $15 annual pass is also assumed.

Each revenue source is described below, followed by a range of possible gross revenue estimates from each source.

Basinwide

General Sales Tax – A general sales tax increase of a specified percentage (e.g. ½ percent) would be applied within the entire basin on retail sales. A quarter percent tax would raise approximately $17 million over ten years, while a half- percent tax would raise approximately $33 million. One percent would raise about $66 million over ten years.

Fuel Tax – A fuel tax increase on a per gallon basis would be assessed at each service station in the basin, with the exception of non-gasoline and non-diesel fuel stations (i.e. propane outlets), and fueling stations at boating facilities such as Marinas. Fueling stations at boating facilities are addressed under the water recreation oriented revenue sources. A one-cent fuel increase would generate about $3.3 million over ten years, while a two-cent increase would raise $6.7 million.

Basin Impact Fee – It is important to distinguish that this fee is *not* an entrance fee to use or travel through the basin. Rather it is a user-type fee to *mitigate* the environmental impacts that each vehicle causes in the basin from its passage, whether the vehicle is destined for the Lake or is traveling through.

From a $1 fee for visitors and 50 cents for residents per trip, approximately $95 million can be raised over ten years. A $2 fee for visitors and $1 for residents would generate about $190 million. A $3 fee for visitors and $1 for residents would raise approximately $278 million over ten years.

Visitor Oriented

Transient Occupancy Tax – An increase in the transient occupancy tax (TOT) would be added to the current TOT rates for visitor accommodations throughout the basin. The current TOT rates are: 10 percent in the City of South Lake Tahoe (12 percent in redevelopment areas of the city), 9 percent in Douglas County, 9 percent in Incline, and 10 percent in Placer County.

A TOT may also be levied on campgrounds and RV parks in the basin. The tax, similar to motels and hotels, would be based on the number of nights stayed. Currently, the City of South Lake Tahoe imposes a 10 percent TOT on campgrounds and RV parks within the city. limits.

By assuming a 1 percent TOT increase for hotels, motels and rental properties, and a 5 percent TOT on camp grounds and RV parks, approximately $23 million could be raised over ten years. Hotels, motels and rental properties would account for 94 percent of the TOT revenues. From a 2 percent TOT increase on hotels, motels and rental properties, coupled with a 10 percent TOT on campgrounds and RV parks, over $45 million could be raised.

Parking Charge – A parking charge would be placed on all parking spaces at recreational and entertainment facilities that attract visitors. The facilities include beaches, casinos, ski resorts, scenic points and trailheads at state parks. A $1 fee per parking space would generate $4.1 million over ten years, while a $2 fee would generate about $8.3 million. A $3 fee per space would generate $12.3 million.

Entertainment Tax – A percentage tax would be placed on all transactions relating to recreation and entertainment. These transactions include bike and watercraft rentals, cruises, skiing and evening shows at casinos. This tax is similar to a general sales tax, but is limited to recreation and entertainment. A 2 percent entertainment tax would raise approximately $46 million over ten years. A 5 percent tax would generate about $114 million.

Scenic Drive Fee – The concept is to charge a fee per vehicle at two of the basin's most popular day-use destinations, Emerald Bay and Fallen Leaf Lake. A $1 fee per vehicle at Fallen Leaf Lake and a $2 fee per vehicle at Emerald Bay, in conjunction with a $10 annual pass, would raise $23 million over ten years. A dollar increase at both locations coupled with a $15 annual pass would generate about $38 million.

Maintained Trail Fee – A surcharge would be assessed on a per person basis during check-in at Ranger Stations for a use permit. The fee would be applied at trailheads at State Parks and United States Forest Service Lands, including trails at Spooner Lake, Emerald Bay and Fallen Leaf Lake. A $1 per person fee would generate $2 million over ten years, while a $2 fee would generate $4 million.

Water Recreation Oriented

Boat Fuel Tax – Similar to the basinwide gas tax, this tax would be placed on fuel consumed at fueling stations geared primarily for watercraft such as at marinas. The fuel tax would be on a per gallon basis. A five-cent tax increase would raise $650,000 over ten years, while a ten-cent increase would raise $1.3 million.

Registered Boat Fee – An additional fee would be levied annually on boats registered in the basin. A $5 additional fee would generate $520,000 over ten years, while a $10 fee would generate a little over $1 million.

Launch Fee – A fee would be assessed for each watercraft launched into the Lake. There are approximately 42,000 watercraft launches annually. A $2 per launch fee would raise over $900,000 over ten years. A $3 fee would generate $1.4 million.

Slip & Buoy Fee – This source would impose an annual fee on all public and private slips, buoys and pier moorings. There are approximately over 7,000 mooring devices on the Lake. A $25 annual fee on all moorings on the lake would generate $1.9 million over ten years. A $35 annual fee would raise $2.6 million, while a $50 annual fee would raise $3.8 million.

Property Owner Oriented

Parcel Fee – A fee on each parcel would provide revenue for such uses as forest fuel reduction, and curbs and gutter around commercial and residential uses. General parcel types include residential, tourist, commercial, recreation, government and open space. The parcel fee would not apply to publicly owned open space and government parcels. A $25 annual parcel fee on all parcels except public parcels would raise about $11.5 million over ten years, while a $50 annual fee would raise $23 million. A $25 parcel fee on residential parcels only would raise a little under $9 million, while a $50 annual fee would raise $17.7 million.

Inter-Regional

It is shown from scientific data that outside sources of pollution contribute to the environmental issues present in the basin. Air pollutants are blown over the mountains into the watershed and may eventually find themselves in the Lake. Therefore, the following inter-regional revenue sources are presented in an attempt to capture a segment of the population in California and Nevada that contribute to the problems facing Lake Tahoe.

Vehicle Registration Fee in Northern California Counties – An additional annual registration fee would be added to exiting fees for motorized vehicles in 12 northern California counties. The 12 counties would include the nine Bay Area counties (San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Sonoma, Marin and Napa), and the counties of Sacramento, El Dorado and Placer. A $1 registration fee increase would generate $64.5 million over ten years, while a $2 increase would generate $129 million.

Vehicle Registration Fee in Nevada Counties – The registration fee increase would apply annually to the three counties that comprise the Nevada portion of the basin, including Washoe, Carson City and Douglas Counties. The fee would apply to all registered vehicles in each county. A $1 registration fee increase would raise $3.3 million over ten years, while a $2 increase would raise $6.6 million.

Gas Tax in Northern California Counties – A gas tax increase would be imposed on the same 12 northern California counties identified above. The tax would be on a per gallon basis. A one-cent per gallon increase in the fuel tax would raise about $397 million over ten years. A two-cent increase would raise $794 million.

Gas Tax in Nevada Counties – A per gallon gas tax increase would be imposed on the same three Nevada counties identified above. A one-cent per gallon increase would generate about $20.4 million over ten years, while a two-cent increase would raise $41 million.

4. IMPLEMENTATION ISSUES

Once the community stakeholders package several funding sources into a coherent strategy for financing the EIP, the actual implementation will occur incrementally. To be sure, some funding sources will require extensive legislative action in both Sacramento and Carson City as well as before congress in Washington, DC. Other funding sources may be implemented locally. In reality the implementation of the EIP will be very fluid. In this section of the report, the issues associated with implementing one or more funding sources are discussed.

The context for the institutional and implementation analysis will be established by describing the ground rules governing TRPA, the local governments with jurisdiction in both the Tahoe Basin and the role of the states. This will be followed by an analysis of each of the funding sources.

TRPA's Charter

The Tahoe Regional Planning Compact is an interstate compact between California, Nevada and the federal government that created TRPA. The Compact provides that funding for the operations of TRPA is through appropriations from California and Nevada. In addition, TRPA can receive grants for specific activities and collect fees to offset the costs of certain managerial activities associated with issuing permits. TRPA does not have the authority to impose the taxes, fees and charges discussed in this report. However, Article IX establishes a separate, independent transportation district, which is authorized to put before the voters of the Basin a general tax for transportation purposes. That tax must be approved by two-thirds vote. The Compact explicitly prohibits the imposition of a property tax, a gross or net receipt tax, a tax or charge for entering or leaving the Basin and any tax direct or indirect on any gaming devices or tables. The Compact can only be amended if the two states and congress adopt the amendment, except Article IX which can be amended by the two states.

Unless the Compact were to be amended, the revenue generating mechanisms reviewed in this report would have to imposed by the two states or local agencies with jurisdiction in the Basin. This means that the impositions of the mechanisms would have to conform to

each state's law governing taxation.

Definition of Terms

Before discussing the ground rules for implementing a funding program, definitions are provided for taxes, assessments and fees. There are the basic sources of local revenue that states authorize local governments to impose.

Taxes

A tax is an involuntary charge on income, property and transactions that generate revenues, but for which there is no relationship between the revenue the individual paying and specific benefits. The benefits are generally considered community-wide.

Assessments

An assessment is a charge levied upon parcels of real property, usually with a pre-defined area or district, to pay for local public improvements. The amount of the assessment may vary among those assessed, depending upon the relative benefit conferred upon the assessed properties from the improvements.

Fees

Fees (sometimes referred to as charges or rates) are imposed by governments for the purpose of paying for the cost of a specific service. Generally, the amount of a fee does not exceed the cost of providing the service, including the overhead costs. The fee may be a flat rate or may vary based on the amount of service utilized, e.g., metered water charges.

These definitions are general in nature and are modified by practice or by law. In California, several constitutional conditions governed the operational definitions of these terms and the actual imposition of taxes, assessments and fees by local governments, including cities, counties and special districts. In Nevada, the rules governing the imposition of local taxes, assessments and fees are more generally in the hands of the legislature and in some cases involving specific local taxes are negotiated between the legislature and individual agencies.

California's Ground Rules for Local Funding

Although California is considered a home rule-state, the terms and conditions governing the authority of both cities and counties to raise revenue substantially limits their discretion. California cities have a general authorization to impose taxes that will benefit the city. Counties in California do not enjoy such discretion. Essentially, counties must secure legislative authorization to impose tax. Regardless of the authorization cities and counties must conform to Proposition 218, which establishes ground rules for imposing local taxes.

Proposition 218 sets the terms and conditions for imposing taxes, fees and assessments. A new tax or an increase in an existing tax requires a majority vote of the electorate in a community if the revenues will be used for the general purposes of a governmental agency. If the revenues are to be used for a special purpose, a two-thirds vote of approval is required. Consequently, a local tax to fund, for example, transit services would require a two-thirds vote. Similarly, a tax for purposes of funding specific elements of the EIP would require a two-thirds majority, since the revenues would be used for a special purpose.

Assessments and fees are treated nearly exactly alike. Proposition 218 defines the services that can be funded by assessment and fees. It also sets criteria for calculating the costs per parcel and it establishes approval requirements. Property related assessments and fees can not fund programs or projects that do not provide direct benefits to specific parcels. A calculation of proportionate share of the benefit for each parcel must be made. For an assessment to be approved, a mailed ballot to all affected property owners and the required approval of property owners representing at least 50 percent of the total assessment value. In regard to fees, if the fee is not rejected in by a majority of property owners in written protest, the new fee or an increase in an existing fee must be approved by a majority of the property owners or by two-thirds of the voters. Fees for refuse collection and water and sewer services do not require voter approval.

Under the terms of these conditions, funding for new facilities or improvements managed by special districts, such as public utilities districts, will need to meet these approval requirements, even though the activity is the general activity of the agency, because the assessments or fees are linked to property.

Nevada's Ground Rules for Local Funding

The rules governing the imposition of local taxes, fees and assessments are generally at the discretion of the legislature in Nevada, with negotiations between individual jurisdictions and the legislature regarding the terms and conditions governing the tax. In some instances a majority vote may be required in other instance it is not required.

Implementing the Revenue Generating Measures

The following table (Table 4) summarizes the terms and conditions governing each funding source and the actions that would be necessary to implement the sources in California and Nevada. There are three ways that the taxes, fees and assessments can be imposed. First, under the terms and conditions of existing law local agencies in the Basin could impose the revenue generating measures for which they are authorization under current law. Second, the states through mutual cooperation could agree upon an implementation strategy and the terms and conditions of specific revenue measures and enact common statutes. The last alternative would be to amend the Tahoe Regional Planning Compact.

A fundamental policy issue is the extent that TRPA directly manages the revenues. Today, TRPA collects revenues from development-related fees, but the fees are spent by local agencies for projects consistent with TRPA's guidelines. Where responsibility rests for managing the resources collected from some of the proposed measures remains to be determined. This would have to be resolved during the enactment of legislation establishing the revenue measure.

Table 3 shows a matrix with comparative characteristics for each potential revenue source. Table 4 focuses on the institutional characteristics of the matrix and summarizes the terms and conditions and implementation issues associated with each revenue measure.

5. POSSIBLE REVENUE IMPLEMENTATION STRATEGIES

The identification and quantification of potential revenue sources serve as the basis for crafting strategies for implementing a funding program. Depending on the predictability and risk of the revenue stream from each source, a number of implementation techniques are possible for providing timely funds for the EIP. Below are descriptions of three such implementing strategies which can be considered the next stages of a revenue analysis. Each of the three strategies – pay-as-you-go, debt financing, and a revolving fund – have unique characteristics in which their applicability is subject to both the preferred choices of funding sources and the proposed construction schedule requirements.

Pay-As-You-Go

The pay-as-you-go technique is one of the simplest forms of financing. Basically, projects are funded only when there are sufficient revenues collected from the revenue generating sources. The level of funds, and therefore the timing of project implementation, is dependent on the revenue generating ability of the funding sources. Most public sector projects are funded in this manner.

Debt Financing

Debt financing, or bonding, is a technique that allows the issuing entity to borrow substantial funds up front to construct projects while paying back the loan over time, with interest, from a stable revenue source stream. Unlike the pay-as-you-go financing method, implementation of capital projects does not have to wait for proceeds from a particular revenue source to build up over time. Rather, the full funds are available up front. Debt financing can accelerate the capital investments in the EIP as well as provide possible funds for near term operations and maintenance.

An entity's ability to incur debt is contingent on at least three conditions: the current financial strength of the entity; the predictability and reliability of a dedicated revenue stream; and risks associated with re-payment of the debt. The strength of the first two conditions can help dictate the risks of the debt. If the entity maintains a strong financial standing as well as has a reliable revenue stream to repay the debt, the risk will be less, as may be perceived by the investors of the debt. This may translate into a lower interest rate required by investors during re-payment. In addition, collateral from a secondary revenue source provides an additional protection measure for investors, who in turn may give the bonds a higher rating and further lower the interest rate or reduce the funding reserves that are included in the bond financing structure.

Bonding is only necessary when the funding levels of the dedicated revenue streams do not build up quickly enough to match the required construction and maintenance schedules. Debt financing allows more funds to be made available immediately above what the current revenue stream can provide. Of course, in addition to repaying the amount borrowed, a downside of this strategy is the need to incur interest expenses over a period of time.

Revolving Fund

The working of a revolving fund is similar to that of a commercial bank. An entity can lend funds to another entity for use on construction or maintenance projects. In return, the borrower pays back the loan to the lending entity along with interest. The interest would allow the lender to capitalize the fund account and be able to lend out more funds to other entities, thus allowing the account to grow. This process would primarily involve local public agencies in the basin and therefore be an intergovernmental financing program.

A challenge in regard to establishing a revolving fund is accumulating sufficient funds to start the program. Possible sources of start-up funds could include grants from the United States Environmental Protection Agency, or funds from a state water bond act. The revenues generated from the preferred local funding sources would be used to repay the loans.

Despite the challenges of establishing a revolving fund, the program can benefit the basin from at least two ways. The first is that local agencies may apply for and receive direct loans locally from the revolving fund program to meet project requirements. The second is that the capitalization of the program can provide collateral as a secondary revenue source for debt financing. As described in the above debt financing technique, the use of the revolving fund program as collateral can reduce the interest rate required by investors of the debt, thereby making the bond more attractive and affordable. Funds from the revolving program are used to repay the bond debt as backup only if the primary revenue source of repayment becomes inadequate and the reserves of the bond issue are drained.

Essentially, the revolving fund program acts as a "credit enhancement" to achieve a lower interest rate on debt.

The interest paid on the loans from the revolving fund program as well as other initial contributions from various governmental sources can keep the program sustainable and growing. One possible goal would be to make the program self-sustaining through the revolving nature of the existing funds and interest paid without needing to replenish with additional revenue sources.

Next Steps

The analysis conducted in this study provides a framework for assessing various potential revenue sources that could provide the local match for the EIP. There will need to be a weighing of the alternatives by Basin stakeholders and policy makers in passing judgement on the preferred funding sources. The analysis provides a magnitude as to the potential revenue generating ability of each source. In addition, legal and institutional issues in both California and Nevada, as well as administrative/cost of collection measures, are presented by funding source to provide information in reviewing the choices.

To determine the full impacts from each funding source in the basin, the next phase will include a need to conduct an economic impact analysis. The economic analysis will look at the ripple effects that the revenue sources, should any be implemented, may have on visitors, residents, local businesses, and the overall basin economy. The analysis will include benefits and costs derived, as well as primary and secondary impacts. It will be important to give attention to the potential impacts on the overnight visitor since much of the economy is reliant on this group year round. The second phase, combined with this study which constitutes the first phase, will ultimately provide a comprehensive look at the funding sources that are vital to the continued implementation and sustainability of the Environmental Improvement Program.

Regional Revenue Source Analysis

APPENDIX OF METHODOLOGIES, BASELINE CONDITION AND BIBLIOGRAPHY

DRAFT

Prepared for

Tahoe Regional Planning Agency

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In collaboration with

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METHODOLOGY

Arthur Bauer and Associates undertook an extensive literature review and communications process with local technical experts to collect data and make assumptions for the potential revenue sources. Each local expert, both in the private and public sectors, provided key data for formulating the assumptions that went into generating the quantitative revenue estimates. Close to 65 individuals were contacted for data input, the majority being from local agencies. State and federal officials, as well as individuals from private parties and local agencies outside the Lake Tahoe Region were also contacted for information. In addition, significant information was reviewed and collected from 25 public documents published by local and state agencies such as TRPA, Caltrans, State of Nevada, and visitor bureaus in the basin.

This appendix contains three main sections. The first section includes the quantitative and qualitative assumptions used to generate the revenue estimates. A step-by-step description of the analysis conducted for each revenue source is contained, followed by the quantitative figures supporting the descriptions. A listing of the sources utilized for the analysis proceeds each qualitative description. Sources include phone contacts with appropriate staff from various public and private entities, and published documents.

The second main section in the appendix, which begins on page 78, contains the baseline condition and detailed descriptions of EIP projects that are currently being funded by local agencies. Available funds from other agencies are also shown.

The last main section in this appendix, which begins on page 80, shows the complete bibliography of persons contacted and documents reviewed.

APPENDIX 1

The first appendix provides the assumptions and calculations that went into generating the revenue estimates for each of the 20 potential funding sources. The funding amounts are summarized in Tables A-1 and A-2. Table A-1 shows the annual gross revenue estimates and their 10 year totals, then presents the various possible administrative/collection expense scenarios for the sources on an annual basis and 10 year totals. A grand net revenue total is included. Table A-2 associates the expenses with each funding source to arrive at net revenues for each source. General revenue and expense assumptions extrapolated for the more detailed work contained in the subsequent sections are also presented following Table A-2.

Following the tables are the individual calculations and qualitative descriptions of each funding source. The directory below provides the page number for the location of the methodology for each source.

Table A-1

Table A-2

Sales Tax Methodology

1. Take taxable sales estimates for each county from 1994 Tahoe Truckee Regional Economic Coalition Economic Indicators Report.

2. Assume a 2% growth rate to bring all taxable sales to 1998 estimates. As a check, current City of South Lake Tahoe taxable sales estimates come close to the estimates from this growth rate.

3. Having generated current taxable sales estimates for the Basin portion of each county, apply a ½ cent tax to get new sales tax estimates.

Second Methodology is to:

1. Divide each county's population by the total taxable sales for each respective county.
2. Result is taxable sales per county capita.
3. Find basin proportion of county residents.
4. Multiply basin residents by per capita taxable sales to get taxable sales in the basin.
5. Apply a tax to get new sales tax estimates. Estimation is close to first method

Sources: 1994 Tahoe Truckee Regional Economic Coalition Economic Indicators Report, Nevada Dept. of Taxation Annual Report 1996-97, TRPA Fair Housing Study.

Taxable Sales Estimates

Taken from Tahoe Truckee Regional Economic Coalition, Baseline Economic Indicators (1991-1994)

City of SLT	$	207,319,000	
Incline	$	5,889,000	
Douglas	$	195,337,000	(58% of county total)
Placer	$	163,000,000	(10% of county total)
Total	$	571,545,000	

Assume 2.0% inflation per year from 1995 to 1998

City of SLT		220,008,581.35
Incline		6,249,453.91
Douglas		207,293,187.10
Placer		172,976,904.00
Total	$	606,528,126

One Quarter percent Sales Tax generates:

City of SLT	$	550,021
Incline	$	15,624
Douglas	$	518,233
Placer	$	432,442
Total	**$**	**1,516,320**

Half percent Sales Tax generates:

City of SLT		1,100,043
Incline		31,247
Douglas		1,036,466
Placer		864,885
Total	**$**	**3,032,641**

One percent Sales Tax generates:

City of SLT		2,200,085.81
Incline		62,494.54
Douglas		2,072,931.87
Placer		1,729,769.04
Total	**$**	**6,065,281**

Two percent Sales Tax generates:

City of SLT		4,400,172
Incline		124,989
Douglas		4,145,864
Placer		3,459,538
Total	**$**	**12,130,563**

Sales Tax Generation

Taxable Sales by County

Carson City	$ 634,539,434
Douglas	$ 404,356,226
Washoe	$ 4,228,528,576
Placer	$ 2,868,932,000
El Dorado, incl. S. Lake Tahoe	$ 985,647,000

1997 Population	Full County	Tahoe Basin	%
Carson City	49,900		0.00%
Douglas	35,880	6,424	17.90%
Washoe	287,240	8,194	2.85%
Placer	209,700	9,339	4.45%
El Dorado, incl. S. Lake Tahoe	141,950	30,762	21.67%
Total	724,670	54,719	

Taxable Sales Per Capita

Carson City	$ 12,716
Douglas	$ 11,270
Washoe	$ 14,721
Placer	$ 13,681
El Dorado, incl. S. Lake Tahoe	$ 6,944

Taxable Sales Generated Per County, in Tahoe Bas

Douglas	$ 72,396,444
Washoe	$ 120,625,829
Placer	$ 127,768,030
El Dorado, incl. S. Lake Tahoe	$ 213,599,669
Total	$ 534,389,972

One Quarter percent Sales Tax generates:

Douglas	$ 180,991
Washoe	$ 301,565
Placer	$ 319,420
El Dorado, incl. S. Lake Tahoe	$ 533,999
Total	**$ 1,335,975**

Half percent Sales Tax generates:

Douglas	361,982
Washoe	603,129
Placer	638,840
El Dorado, incl. S. Lake Tahoe	1,067,998
Total	**$ 2,671,950**

One percent Sales Tax generates:

Douglas	723,964.44
Washoe	1,206,258.29
Placer	1,277,680.30
El Dorado, incl. S. Lake Tahoe	2,135,996.69
Total	**$ 5,343,900**

Two percent Sales Tax generates:

Douglas	1,447,929
Washoe	2,412,517
Placer	2,555,361
El Dorado, incl. S. Lake Tahoe	4,271,993
Total	**$ 10,687,799**

Revenues by State
Sales Tax

	Taxable Sales	Half percent sales tax	% of total
Nevada			
Douglas	$ 207,293,187	$ 1,036,466	
Incline	$ 6,249,454	$ 31,247	
Total	213,542,641	$ 1,067,713	35%
California			
Placer	$ 172,976,904	$ 864,885	
City of SLT	$ 220,008,581	$ 1,100,043	
Total	$ 392,985,485	$ 1,964,927	65%

Fuel Tax Methodology

CA gallons of fuel

1. Obtain taxable sales from 9 service stations in South Lake Tahoe from Board of Equalization.

2. Calculate sales per gas station.

3. Determine total taxable sales for all service stations on CA side of basin. There are 20 total stations.

4. Find ratio of taxable sales in basin to total taxable sales from service stations in CA.

5. Multiply that ratio by the total number of gallons of fuel consumed in CA to get the number of gallons consumed in the Basin.

NV gallons of fuel

1. Obtain data on number of gallons consumed per NV gas station from TRPA.

2. There are 5 total service stations on NV side of basin.

3. Determine total gallons consumed on NV side of basin.

Add CA and NV gallons to get total Tahoe Basin gallons of gas consumed.

1. Apply two cent gas tax per gallon to get revenues.

Sources: CA State Board of Equalization, TRPA staff, Caltrans Motor Vehicle Stock, Travel and Fuel Forecast.

Method #3 (Preferred Method)
Fuel Tax
1996-97 Taxable Sales from Nine Service Stations in South Lake Tahoe
$13,724,000

Sales per Service Station	# of Service Stations in CA Side of basin
$1,524,889	20

Total Sales for CA side of Basin	Total Sales Statewide at Service Stations, CA
$30,497,778	$ 19,016,053,000

Percent of Basin Rev. of Total CA Gas Sales
0.16%

Total Gallons Consumed in CA

Gasoline	13,305,000,000
Diesel	2,213,000,000
Total	15,518,000,000

Number of Gallons in Basin, CA
24,887,631

Number of Gallons per NV gas station
1,136,300

Number of Service Stations in Basin, NV side
5

Number of Gallons in Basin, NV
5,681,500

Total Gallons in Basin
30,569,131

Sources: State Board of Equalization; TRPA; Caltrans Motor

2 cent increase per gallon
$ 611,383

1 percent increase in sales tax for fuel
30,569,131 gallons X $1.23 = $ 37,600,031 X 1%
$ 376,000

Revenues by State

Gas Tax ($.02)

	# stations	Revenues		
California	20	$ 497,753	Total	
			$ 611,383	
Nevada	5	$ 113,630		

Methodology for Basin Impact Fee.

REVENUES

1. Obtain daily trip information at seven Cordon Stations for Basin

   - Sources were TRPA model trip forecast from 2001-2016 contained in Regional Transportation Plan (RTP) update, and 1995 Caltrans and NDOT trip counts.

   - Growth rate of trips for each Cordon Station was taken from RTP update.

2. Assume that the Toll Fee is applied to half of the total daily trips. (Presuming that each vehicle that enters the basin must exit the basin, and vice versa).

3. To derive estimate for current year's daily trip totals, let 1995 trips grow for two years, using growth rates for each Cordon Station.

4. Since trip totals are based on peak daily trips, assume that on an annual basis, 25% of the trips are under peak conditions, and 75% of the trips are under non-peak conditions. The non-peak trips are assumed to be 60% of the peak daily trips.

5. To arrive at an average daily trip count per Cordon Station that can be applicable each day of the year, a weighted average calculation was conducted.

   - For each station, the peak and off-peak daily trip counts are multiplied by the percentage of their occurrence (see step 4 above).

   - The resulting product is the average daily trip count for each Cordon Station, having been influenced by both peak and off-peak trips.

6. Next, must figure out the type of trip, whether it is a resident, visitor, or through trip. In assuming that residents will be charged half price for the toll, must find out the percentage of daily trips at each Cordon Station that are taken by residents.

   - Obtain data of daily trips by resident and visitor at each station.

   - Derive percentage of trips at each Cordon Station by residents and visitors. Assume that through-trips are assessed full toll fee also, so both visitor and through-trips can be combined.

7. Finally, can calculate gross revenues collected from each Cordon Station by multiplying the toll ($2) by the percentage of daily trips that are visitor and through trips for a full year. The annual growth rates of revenues for each Cordon Station are those in Step 1, which are taken from RTP update.

8. Revenues can be summarized in several forms, including the grand total for the EIP Project period of 10 years, by Cordon Station, or annually for all stations.

EXPENSES

1. Obtain operations cost estimates from Caltrans for manual and electronic bridge toll collections to use as proxies for costs for toll roads.

2. Obtain capital cost estimates from Caltrans for manual and electronic booths on toll bridges to use as proxies for costs for toll roads.

3. Assume that there will be three booths set up at each Cordon Station.

Sources: TRPA RTP, Caltrans, NDOT, South Shore Parking Strategy Study.

Toll Road Fee

Fee of $2.00 per each visitor and through-way entrance trip
Half price per entrance trip for Residents

Annual Avg. Daily Trip (AADT) Growth Rates per TRPA model

Cordon Station

Mt. Rose	2.34%
Spooner	1.05%
Kingsbury	4.67%
Luther	5.07%
Echo	1.50%
SR 89	1.34%
SR 267	1.50%

CASH FLOW

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Revenues											
Cordon Station											
Mt. Rose	1,653,934	1,692,637	1,732,244	1,772,779	1,814,262	1,856,716	1,900,163	1,944,626	1,990,131	2,036,700	18,394,191
Spooner	3,880,289	3,921,032	3,962,202	4,003,806	4,045,845	4,088,327	4,131,254	4,174,632	4,218,466	4,262,760	40,688,613
Kingsbury	1,553,594	1,626,147	1,702,088	1,781,575	1,864,775	1,951,860	2,043,012	2,138,420	2,238,285	2,342,813	19,242,568
Luther	1,071,524	1,125,850	1,182,931	1,242,905	1,305,921	1,372,131	1,441,698	1,514,792	1,591,592	1,672,286	13,521,630
Echo	3,249,144	3,297,882	3,347,350	3,397,560	3,448,523	3,500,251	3,552,755	3,606,046	3,660,137	3,715,039	34,774,688
SR 89	3,286,103	3,330,137	3,374,761	3,419,983	3,465,811	3,512,252	3,559,317	3,607,011	3,655,345	3,704,327	34,915,048
SR 267	2,637,533	2,677,096	2,717,252	2,758,011	2,799,381	2,841,372	2,883,992	2,927,252	2,971,161	3,015,728	28,228,777
Sub-Total	17,332,121	17,670,780	18,018,828	18,376,619	18,744,518	19,122,909	19,512,191	19,912,781	20,325,117	20,749,653	189,765,516
Expenses											
Operations (Fee Collections)											
Manual	1,733,212	1,820,090	1,855,939	1,892,792	1,930,685	1,969,660	2,009,756	2,051,016	2,093,487	2,137,214	19,493,852
Electronic	1,393,425	1,463,478	1,218,890	1,243,275	1,268,353	1,294,152	1,320,698	1,348,022	1,376,151	1,405,119	13,331,563
Half/Half	1,563,319	1,691,038	1,583,537	1,615,074	1,647,505	1,680,863	1,715,184	1,750,505	1,786,864	1,824,302	16,858,189
Capital Costs (Toll Booths)											
Manual	2,100,000										2,100,000
Electronic	4,200,000										4,200,000
Half/Half	3,150,000										3,150,000
Sub-Total Manual	3,833,212	1,820,090	1,855,939	1,892,792	1,930,685	1,969,660	2,009,756	2,051,016	2,093,487	2,137,214	21,593,852
Sub-Total Elec.	5,593,425	1,463,478	1,218,890	1,243,275	1,268,353	1,294,152	1,320,698	1,348,022	1,376,151	1,405,119	17,531,563
Sub-Total Half/Half	4,713,319	1,691,038	1,583,537	1,615,074	1,647,505	1,680,863	1,715,184	1,750,505	1,786,864	1,824,302	20,008,189
Net Revs.											
All Manual Booths	13,498,909	15,850,689	16,162,889	16,483,827	16,813,833	17,153,249	17,502,435	17,861,765	18,231,630	18,612,438	168,171,665
All Electronic Booths	11,738,697	16,207,301	16,799,938	17,133,344	17,476,165	17,828,757	18,191,492	18,564,760	18,948,966	19,344,534	172,233,953
Half/Half	12,618,803	15,979,742	16,435,291	16,761,545	17,097,013	17,442,046	17,797,007	18,162,277	18,538,253	18,925,351	169,757,327

Traffic Counts at 7 Entrance Points

Cordon Station	*Avg. Daily Peak Trips*		Growth Rates per year	*Half of Daily Peak Trips to be applied Toll Fee, 1995*
	Yr. 1995	*Yr. 2001**		*Yr. 1995*
Mt. Rose	6,890	7,916	2.34%	3,445
Spooner	15,851	16,876	1.05%	7,926
Kingsbury	6,164	8,106	4.67%	3,082
Luther	4,100	5,516	5.07%	2,050
Echo	12,900	14,105	1.50%	6,450
SR 89	13,500	14,622	1.34%	6,750
SR 267	10,700	11,700	1.50%	5,350
Total	70,105	78,841		35,053

* based on TRPA model, *peak trips*
1995 figures from Caltrans

For toll fee trips, use two years of growth from 1995 figures.

Cordon Station	ADT, *Peak*
Mt. Rose	3,608
Spooner	8,093
Kingsbury	3,377
Luther	2,263
Echo	6,645
SR 89	6,932
SR 267	5,512
Total	36,429

*Assume: Off peak daily trip totals are 60% of daily peak trip totals***

Cordon Station

	ADT, *Off-Peak*
Mt. Rose	2,165
Spooner	4,856
Kingsbury	2,026
Luther	1,358
Echo	3,987
SR 89	4,159
SR 267	3,307
Total	21,858

** % derived from ratio of Annual to Peak Month ADT around S. Lake Tahoe area counters
Source: Caltrans 1995 Traffic Volumes

Weighted Average Calculation for one-way ADT per Cordon Station.

Cordon Station

		Avg. Daily One-Way Trips
Mt. Rose	ADT=.25*(3,608 peak trips)+.75(2,165 off-peak trips)	**2,521**
Spooner	ADT=.25*(8,093 peak trips)+.75(4,856 off-peak trips)	**5,654**
Kingsbury	ADT=.25*(3,377 peak trips)+.75(2,026 off-peak trips)	**2,359**
Luther	ADT=.25*(2,263 peak trips)+.75(1,358 off-peak trips)	**1,581**
Echo	ADT=.25*(6,645 peak trips)+.75(3,987 off-peak trips)	**4,642**
SR 89	ADT=.25*(6,932 peak trips)+.75(4,159 off-peak trips)	**4,843**
SR 267	ADT=.25*(5,512 peak trips)+.75(3,307 off-peak trips)	**3,851**
		25,451

Assume:
90 Peak days
275 off peak days
Percentage of full year

Peak days	25%
Off Peak	75%

Percent breakdown of trips
Source: LSC, Parking Study, Tech. Memo. #2

Cordon Station ***Trip by Type, 1995***

	Resident	Visitor	Through	Total
Mt. Rose	1,412	5,149	416	6,977
Spooner	1,924	12,843	1,305	16,072
Kingsbury	1,233	4,741	328	6,302
Luther	706	3,285	937	4,928
Echo	1,153	10,841	1,983	13,977
SR 89	2,036	10,937	1,465	14,438
SR 267	1,494	8,997	1,616	12,107
Total	9,958	56,793	8,050	74,801

Percentage of trips

Cordon Station ***% Trip by Type, 1995***

	Resident	Visitor	Through	Total
Mt. Rose	20%	74%	6%	100%
Spooner	12%	80%	8%	100%
Kingsbury	20%	75%	5%	100%
Luther	14%	67%	19%	100%
Echo	8%	78%	14%	100%
SR 89	14%	76%	10%	100%
SR 267	12%	74%	13%	100%

Percentage of trips, combining Visitor and Through trips

Cordon Station ***% Trip by Type, 1995***

	Resident	Visitor + Through	Total
Mt. Rose	20%	80%	100%
Spooner	12%	88%	100%
Kingsbury	20%	80%	100%
Luther	14%	86%	100%
Echo	8%	92%	100%
SR 89	14%	86%	100%
SR 267	12%	88%	100%

Expenses

Operations

Assume that direct labor for manual collection of tolls is 15 cents for first dollar collected and 5 cents for every dollar collected after.

1st Dollar	2nd Dollar
$ 0.15	$ 0.05

Assume that electronic toll collection is:

$ 0.15 per transaction for first two years.
$ 0.12 per transaction after.

Also assume 3% annual increase in operations costs.

Capital costs

Manual collection per booth			Total Costs
$ 100,000 per booth	*Assume*		$ 2,100,000
	21		
Electronic toll booth	Booths		Total Costs
$ 200,000 per booth			$ 4,200,000

Source: Caltrans estimates for Bay Area Bridges

Manual Operations costs mainly accounts for direct manual labor of collecting toll and some admininstration.
Electric Operations costs includes all administration and marketing.

Basin Entrance Fee
Revenues by Resident and Visitor

Resident			**Visitor**		
Mt. Rose	$	186,203	Mt. Rose	$	1,358,014
Spooner	$	247,044	Spooner	$	3,298,117
Kingsbury	$	168,462	Kingsbury	$	1,295,504
Luther	$	82,677	Luther	$	769,389
Echo	$	139,781	Echo	$	2,628,557
SR 89	$	249,274	SR 89	$	2,678,101
SR 267	$	173,436	SR 267	$	2,088,898
Sub-Total	$	1,246,877	Sub-Total	$	14,116,580

Through		
Mt. Rose	$	109,717
Spooner	$	335,128
Kingsbury	$	89,628
Luther	$	219,457
Echo	$	480,807
SR 89	$	358,729
SR 267	$	375,198
Sub-Total	$	1,968,664

Percentage of Resident to Visitor/Through Revenues

Resident	7%
Through	11%
Visitor	81%

Total Revenues, Yr. 1999
$ 17,332,121

Transient Occupancy Tax Methodology, Lodging.

1. Obtain data on average TOT revenues from each county.

2. Calculate lodging revenues for each county using TOT revenues and TOT tax rates for each county.

3. Apply 2% TOT on average lodging receipts to get new revenue for each county.

Sources: Lake Tahoe Visitors Authority, North Lake Tahoe Resort Association, Reno/Sparks Convention and Visitors Bureau, City of South Lake Tahoe Accounting Dept.

TOT from SLT, Incline, Placer County and Douglas County

SLT (11%)	$	7,005,279
Three Year Annual Average		
Douglas Co. (9%)	$	5,296,278
Two Year Annual Average		
Incline Village (9%)	$	2,375,101
Five Year Annual Average		
Placer Co. (8%)	$	3,690,037
Not incl. 2% TOT for pub. Improvements		

1997	$ 4,090,473
1996	$ 3,840,039
1995	$ 3,924,968
1994	$ 3,385,705
1993	$ 3,209,000
Average	$ 3,690,037

Assumed average current TOT percentage to get lodging revenues

11% for SLT	9% for Douglas County	9% Incline	8% CA N. Shore (to be consistent, not include 2% TOT for pub. improvements)

Est. Lodging Revenues

TOT collections / TOT%		
SLT	$	63,684,355
Douglas Co.	$	58,847,533
Incline Village	$	26,390,011
Placer Co.	$	46,125,463
Total	$	195,047,361

Assumed TOT percentage increase

2%

Additional TOT Revenues generated annually

SLT	$	1,273,687
Douglas Co.	$	1,176,951
Incline Village	$	527,800
Placer Co.	$	922,509
Total	***$***	***3,900,947***

SLT TOT Breakdown

	6% TOT	% of 6% TOT	4% TOT	=10% TOT	12% TOT
Rental/Owner Properties:	904,183	39%	620,558	1,524,741	
Motels:	1,434,059	61%	984,222	2,418,281	
Redevelopment Areas:					3,281,298
	2,338,242	100%	1,604,780	3,943,022	3,281,298
				55%	45%
Source: City of SLT acct. dept.				Grand Total	**$ 7,224,320**

Revenues by State
TOT Lodging 2% increase

	Lodging Receipts	TOT	% of total
Nevada			
Douglas	$ 58,847,533	$ 1,176,951	
Washoe	$ 26,390,011	$ 527,800	
Total	$ 85,237,544	$ 1,704,751	44%
California			
Placer	$ 46,125,463	$ 922,509	
City of SLT	$ 63,684,355	$ 1,273,687	
Total	$ 109,809,817	$ 2,196,196	56%

Transient Occupancy Tax Methodology , Campground and RV Parks

1. Obtain data on number of campsites in basin and prices per night.

2. Assume number of nights campsites occupied, estimated from revenues collected from State campgrounds.

3. Summarize total revenues from all campsites.

4. Scenario #1: Determine total revenues without CA State Park revenues, since can not impose TOT (CA Revenue and Taxation Code, Section 7282).

5. Scenario #2: Apply 10% TOT on all campgrounds and RV sites (including State Parks), and 2% TOT on SLT sites.

6. Summarize TOT revenues generated.

Source: CA State Parks, Various Campground Brochures, City of SLT Accounting Dept., Various contact with select campsites.

Campgrounds and RV Sites

Owner	Name	# sites	Avg. Price/Night	# of days fully Occupied, with no turnover in camp sites.*	Total
State	Bayview	10	Free (2 nights)		
N. Shore	Blue Waters Lodge & RV Park	75	$ 22.00	45	$ 74,250
S. Shore	CA Land Mgmt. (Fallen Leaf)	75	$ 22.00	45	$ 74,250
Permit by USFS	Camp Richardson	332	$ 19.50	45	$ 291,330
SLT, city own	Campground by the Lake	170	$ 16.50	45	$ 126,225
S. Shore	Chris Haven Mobile Park	75	$ 22.00	45	$ 74,250
State	D.L. Bliss	172	$ 16.00	77	$ 211,904
State	Emerald Bay Boat Camp	20	$ 8.00	incl. In Eagle Pt	
State	Eagle Pt. (Emerald Bay)	100	$ 16.00	77	$ 123,200
USFS, some RV	Fallen Leaf	205	$ 14.00	77	$ 220,990
USFS	Ganite Flat	75	$ 12.00	45	$ 40,500
State	General Creek (Sugar Pine)	175	$ 16.00	77	$ 215,600
USFS	Goose Meadow	25	$ 8.00	45	$ 9,000
N. Shore	Hand O Fortune Court	75	$ 22.00	45	$ 74,250
Permit by USFS	Kaspian (private)	10	$ 10.00	45	$ 4,500
Meyers, Private	KOA	60	$ 23.00	45	$ 62,100
Tahoe City PUD	Lake Forest Camp	20	$ 10.00	45	$ 9,000
S. Shore	Lakeside Mobile Home & RV Park	75	$ 22.00	45	$ 74,250
S. Shore	Little Truckee Mobile Home Park	75	$ 22.00	45	$ 74,250
USFS	Meeks Bay	40	$ 14.00	45	$ 25,200
Permit by USFS	Meeks Bay Resort	28	$ 17.50	45	$ 22,050
USFS	Mt. Rose	24	$ 7.00	45	$ 7,560
USFS	Nevada Beach Forest	54	$ 15.00	45	$ 36,450
S. Shore	Old Stage Mobile Park	75	$ 22.00	45	$ 74,250
S. Shore	Richardson's Resort & Marina	75	$ 22.00	45	$ 74,250
King Bch, Private	Sandy Beach	44	$ 17.50	45	$ 34,650
USFS	Silver Creek Camp	26	$ 8.00	45	$ 9,360
Meyers, Private	Tahoe Pines	60	$ 22.00	45	$ 59,400
State	Tahoe State Rec. Area	39	$ 16.00	77	$ 48,048
SLT, Private own	Tahoe Valley Camp	413	$ 24.00	45	$ 446,040
N. Shore	Village Green Mobilehome and RV Park	75	$ 22.00	45	$ 74,250
USFS	William Kent	91	$ 12.00	45	$ 49,140
Permit by USFS	Zephyr Cove	175	$ 19.00	45	$ 149,625
	Total	3,033			$ 2,870,122

Scenario 1

Can't impose TOT on State Park campgrounds	St. Parks total	$ 598,752
(CA Revenue and Taxation Code, Section 7282)	Total w/out St. Parks	$ 2,271,370

Scenario 2

Total Revenues without SLT sites		$ 2,297,857

Impose 10% TOT on total revenues from all campgrounds and RV parks, except SLT sites
$ 229,786

Impose 2% TOT on SLT sites **Total** $ 241,231
$ 11,445

Note: (77 days at state camp sites was chosen because the current camp site fees and site totals, filled to capacity for 77 days, match closely with actual revenues collected. 45 days at other sites arbitrarily chosen.)

Parking Fee Methodology

REVENUES

1. Collect number of public parking spaces from State Parks, and non-South Shore recreational locations. Contacted appropriate staff from various local agencies for data.

2. Summarize number of parking spaces, except South Shore locations.

3. Assume that lots are filled to parking capacity without turnover during the day the equivalent of 90 days per year. (The actual parking revenues collected by state parks generates an estimated equivalent amount as the assumption).

4. Utilize daily peak revenues from South Shore Parking Strategy Study for South Shore locations. Assume 90 peak days.

5. Create two fee scenarios, a $2 daily charge and a $3 daily charge.

6. Summarize gross annual revenue totals from South Shore and all other locations for both locations.

7. Phase in collection of gross revenues over four years at 35%, 45%, 74%, and 100% per LSC analysis of implementation of the parking program.

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EXPENSES

1. Utilize capital and operations costs in LSC study for South Shore locations.

2. Assume capital and operations costs for North Shore and other locations are 25% of the costs for South Shore, based on the ratio of non-South Shore recreation parking spaces to South Shore recreational spaces

3. Phase in capital and operating costs over the same ratios and time period as the revenue collection.

Sources: South Shore Parking Strategy Study, Fallen Leaf Lake/Emerald Bay Transportation Study, Local/State agency staff contacts, select private sector staff contacts.

Parking Fees

State Parks	**# spaces**	
Emerald Bay		
# of spaces		
Formal	166	
Informal	332	
Total	498	
		Total CA State Parks
Tahoe St. Rec. Area	65	1,058
Sugar Pine	100	
D.L. Bliss	35	
Lake Valley Rec Area	70	
Fallen Leaf Lake		
# of spaces		
Formal	84	
Informal	206	
Total	290	
Sand Harbor Beach		
Autos	512	
Cave Rock		
Combined Boats and Autos	60	**Total NV State Parks**
		672
Spooner Lake		
Formal	86	
Informal	14	
Total	100	

North Shore		
Diamond Peak Resort	630	
Incline/Ski Beach	107	
Aspen Grove Village Green	92	
Burnt Cedar Beach	156	
Total	985	
Tahoe Conservancy		
Phase I (Garwoods to Sierra Boat Marina	43	
Phase II (E. of Patton Beach)	23	
Total	66	
Kings Beach State Recreation Area	150	
Miscellaneous other beaches	60	
Tahoe Biltmore	338	
Cal Neva	200	
Hyatt Regency	500	
Crystal Bay Club	150	
	1,398	
South Shore (non LSC lots)		
Future Tahoe Keys Marina area (Tahoe Conservancy project)	50	
West Shore		
Tahoe City Transit Park	210	
Skylandia Park	30	
Lake Forest Beach	10	
Pomin Park	30	
WCB Boat Camp	44	
Commons Beach	36	
64 Acres	50	
Gatekeepers Cabin	45	
Kilner Park	18	
Elizabeth Williams	6	
Homewood Ski Resort	400	
	669	
Total Non-State Park Spaces	3,378	total other spaces

Alternative #1 Summation ($3 parking fee)
Extra $3 charge
Assume lots filled to capacity with no turnover in spaces the equivalent of 90 days per year.

CA State Parks
$ 285,660 **Total (excluding South Shore Parking)**
$ 1,379,160

NV State Parks
$ 181,440

Other non-S. Shore rec. parking lots
$ 912,060

LSC Parking Strategy #3 **South Shore Recreation Parking Lots** beaches, casinos, ski areas, trail heads, marinas, etc.

Recreation Based Parking Fees			$3	per day
Visitor revenues per day, peak	$	37,300		
Resident revs. per day, peak	$	22,500	$30	per annual pass
Total	$	59,800	13,784	total spaces

Assume 90 peak days $ 5,382,000

Total Gross Revenues is:

$	5,382,000	South Shore parking
$	1,379,160	All other parking
$	**6,761,160**	(phased in 35% in year 1)
		45% in year 2
		74% in year 3
		100% in year 4

Alternative #2 Summation ($2 parking fee)

Extra $2 charge

Assume lots filled to capacity with no turnover in spaces the equivalent of 90 days per year.

CA State Parks

$	190,440

NV State Parks

$	120,960

Other rec. parking lots

$	608,040

Total (excluding South Shore Parking)

$ 919,440

LSC Parking Strategy #3 **South Shore Recreation Parking Lots** beaches, casinos, ski areas, trail heads, marinas, etc.

Recreation Based Parking Fees $2 per day

Visitor revenues per day, peak	$	24,866		
Resident revs. per day, peak	$	15,000	$20	per annual pass
Total	$	39,866	13,784	total spaces

Assume 90 peak days $ 3,587,964

Total Gross Annual Revenues is:

$	3,587,964	South Shore parking
$	919,440	All other parking
$	**4,507,404**	(phased in 35% in year 1)
		45% in year 2
		74% in year 3
		100% in year 4

Expenses

Capital Costs for S. Shore Parking Program (transit not included)
$ 1,208,250

Maintenance and Operations for S. Shore (transit not included)
$ 1,232,100

Source: LSC, S.Shore Parking Study, Tech. Memo #3

*Capital Costs for N. Shore, assumed at 25% of S. Shore Costs**
$ 302,063

*Maintenance and Operations for N. Shore, assumed at 25% of S. Shore Costs**
$ 308,025

Assume O&M costs increase 3% per year

Total Capital Costs, Basin
$ 1,510,313

Total Maintenance and Operations costs, Basin
$ 1,540,125

Capital Costs are phased in over 4 years at 35%, 45%, 74%, and 100% of total costs

Year 1	$	528,609
Year 2	$	151,031
Year 3	$	437,991
Year 4	$	392,681

O&M costs are phased in over 4 years, similar to revenues, at 35%, 45%, 74%, and 100%

Year 1	$	539,044
Year 2	$	693,056
Year 3	$	1,139,693
Year 4	$	1,540,125

Notes
* Non-South Shore recreation spaces tally up to 25% of S. Shore parking spaces

Ratio of Casino and Ski Resort Parking to Total Spaces

Ski Resort and Casino Totals (basinwide)	Non South Shore Ski and Casino	South Shore Ski and Casino
12,899	2,218	10,681

Total Parking Spaces basinwide
18,892

Percent of total parking spaces basin wide

Ski Resort and Casino Totals (basinwide)	Non South Shore Ski and Casino	South Shore Ski and Casino
68%	12%	57%

Casinos only (spaces)	North Shore	South Shore
10,159	1,188	8,971

Percent of total spaces basin wide

54%	6%	47%

Ski Resorts only (spaces)

Heavenly	Homewood	Diamond Peak	Total
1,710	400	630	2,740

Percent of total spaces basin wide

9%	2%	3%	**15%**

Entertainment Tax Methodology

1. Derive average expenditure per visitor per day on recreation and entertainment.

South Shore

- ❖ Obtain data on per party spending per day per season.
- ❖ Obtain data on average party size per season.
- ❖ Derive spending per visitor per day per season.

North Shore

- ❖ Obtain data on spending per visitor per day per season from intercept and mailback survey. The two survey techniques provided two sets of spending figures per season.
- ❖ Use weighted average calculation to get average expenditures, considering the response rates from both the intercept and mailback surveys.
- ❖ Summarize average expenditures per visitor per season

2. Perform weighted average calculation to get one set of average visitor expenditures per day for the basin. Assume 80% of visitor days are spent on S. Shore, 20% on N. Shore, based on estimated visitor days on both shores (1991 TRPA Threshold Evaluation).

3. Calculate overall average expenditures per visitor per day per season.

4. Determine visitor days per year (see Visitor Day Methodology)

5. Assume percentages of visitor days per season (20% during Fall, 35% winter, 45% Summer), based on estimated proportion of lodging receipts.

6. Calculate total expenditures per season on entertainment and recreation basin-wide.

7. Apply 2% tax on total expenditures to get revenues.

Source: 1991 TRPA Threshold Evaluation, 1997 North Lake Tahoe Resort Association Visitor Profile Survey, 1997 Lake Tahoe Visitor Authority Visitor Profile Summary, South Lake Tahoe Chamber of Commerce "Lake Tahoe Economy Dollar Volume Estimates".

Entertainment Tax

Avg. Expenditure per visitor per day for both recreation and entertainment, North Shore

Fall	$	33
Winter	$	57
Summer	$	62

Avg. Expenditure per visitor per day for both recreation and entertainment, South Shore

Fall	$	19
Winter	$	23
Summer	$	25

Note: More visitor expenditures are going towards gaming on S. Shore, hence possibly explaining the difference in rec. and entertainment spending between North and South.

Total Visitor Days/year 7,106,010

Assume 80% visitor days are spent in S. Shore, 20% in N. Shore, based on estimated visitors to each

Weighted Avg. Calculation to get avg. spending per visitor per day per season, basin wide.
=((80%*(S.Shore Fall$))+(20%*(N.Shore Fall$)))

Fall	$	22
Winter	$	30
Summer	$	32

Assume:
20% of annual visitors days during Fall, based on estimated proportion of lodging receipts.
35% of annual visitors days during Winter
45% of annual visitors days during Summer

Entertainment and Recreation

Annual revenues basin wide, by season.

Fall	$	30,922,364
Winter	$	74,665,437
Summer	$	103,341,756
	$	208,929,556

Alternative 1
2% entertainment and recreation tax (combine entertainment and recreation revenues)

Entertainment and Recreation

Fall	$	618,447
Winter	$	1,493,309
Summer	$	2,066,835
Total	***$***	***4,178,591***

Alternative 2
5% entertainment and recreation tax (combine entertainment and recreation revenues)

Entertainment and Recreation

Fall	$	1,546,118
Winter	$	3,733,272
Summer	$	5,167,088
Total	***$***	***10,446,478***

Entertainment Tax, North Shore

Spending per visitor data extracted from N. Lake Tahoe Resort Association Survey, 1997.
Dollar figures below do not include sightseeing spending per visitor day.

Entertainment and Nightlife spending per visitor per day

	Intercept	Mailbacks	Avg. Derived
Fall	$ 11		$ 11
Winter	$ 19	16	$ 18
Summer	$ 12	19	$ 14

Recreation and activities spending per visitor per day

	Intercept	Mailbacks	Avg. Derived
Fall	$ 22		$ 22
Winter	$ 37	43	$ 39
Summer	$ 62	18	$ 48

Weighted average calculation of Intercept to Mailback responses to get average expenditures, based on survey response totals.

Total Survey Responses (1997 N. Lake Tahoe Resort Assoc. survey)

	Intercept	Mailback	Total
Summer	1,355	635	1,990
% of total	68%	32%	
Winter	735	466	1,201
% of total	61%	39%	

Avg. Expenditure per visitor per day for entertainment per season. (inserted in above table)

Winter	$ 18
Summer	$ 14

Avg. Expenditure per visitor per day for recreation per season. (inserted in above table)

Winter	$ 39
Summer	$ 48

Avg. Expenditure per visitor per day for both recreation and entertainment, North Shore

Fall	***$ 33***
Winter	***$ 57***
Summer	***$ 62***

Entertainment Spending on South Shore (including recreation)

Per Party Daily Expenditures for Entertainment

Calendar Year			
Quarter 1	Quarter 2	Quarter 3	Quarter 4
Winter	Spring	Summer	Fall
$ 79	$ 82	$ 53	$ 72

Avg. Party Size

Winter	Spring	Summer	Fall
3.4	3.3	3.2	3.8

Spending per person per day on entertainment

Winter	Spring	Summer	Fall
$ 23	$ 25	$ 17	$ 19

Source: LTVA 1997 Visitor Profile Summary

Scenic Drive Fee Methodology

REVENUES

1. Obtain data on average daily trips for Emerald Bay and Fallen Leaf Lake.
    - ❖ Obtain traffic data on peak daily trips and annual average trips at Caltrans mileposts (MP)and from TRPA model.
    - ❖ Divide daily trips by two to address only one-way trips.
    - ❖ Assume, for ***Emerald Bay***, that 80% of the one-way trips counted at the south MP is applied a fee, and 50% of the one-way trips counted at the north MP is applied a fee. The remaining 20% and 50% of one-way trips are the same paying vehicles that travel beyond Emerald Bay and then cross back over to return to their origin. This is done to avoid double counting the same vehicles and applying another fee.
    - ❖ Assume, for ***Fallen Leaf Lake***, that 70% of the one-way trips from the east MP, and 50% of the one-way trips from the west MP are applied the fee. The remaining 30% and 50% are the same paying vehicles that travel beyond Fallen Leaf Lake and then cross back over to return to their origin.
2. Assume 25% of a year is for peak traffic, and 75% of a year is for off-peak traffic.
3. Conduct weighted average calculation for Avg. Daily Traffic (ADT) that is applicable for full year for Emerald Bay and Fallen Leaf Lake.
4. Determine breakdown of trip type (resident vs. visitor and pass-throughs) in the two areas.
5. Apply percentage of trip type to ADT (step 3) for Emerald Bay and Fallen Leaf Lake to get trip distribution.
6. Apply annual pass of $15 (one-time payment) for resident trips, and $3 for Emerald Bay and $2 for Fallen Leaf Lake.
7. Calculate annual revenues for resident passes and visitor/pass through trips.
8. Summarize total revenues for Emerald Bay and Fallen Leaf Lake.

EXPENSES

1. Obtain operations cost estimates from Caltrans for manual bridge toll collections to use as proxies for costs for toll roads.

2. Obtain capital cost estimates from Caltrans for manual booths on toll bridges to use as proxies for costs for toll roads.

3. Assume that there will be two booths set up at each entrance point into Emerald Bay and Fallen Leaf Lake (one on each side of Highway 89, eight total booths).

Sources: TRPA traffic model, Caltrans trip counts, Caltrans, TRPA Fallen Leaf Lake/Emerald Bay Transportation Study, South Shore Parking Strategy Study.

Emerald Bay

Avg. Daily/Annual Paying Trips	2,507

Distribution of Daily Trips		Trips	Daily Revs.	Annual Revs. (Fee applied all year)
Residential Trips/Annual Passes	19%	469	$ 7,035	$ 7,035
Visitor Trips/Daily Passes Beg/End Trip Outside Basin/Daily Passes	81%	2,038	$ 6,114	$ 2,231,508
				$ 2,238,543

Daily Pass	$	3
Annual Pass	$	15

Fallen Leaf

Avg. Daily/Annual Paying Trips	1,885

Distribution of Daily Trips		Trips	Daily Revs.	Annual Revs. (Fee applied all year)
Residential Trips/Annual Passes	13%	252	$ 3,783	$ 3,783
Visitor Trips/Daily Passes Beg/End Trip Outside Basin/Daily Passes	87%	1,633	$ 3,266	$ 1,192,187
				$ 1,195,971

Daily Pass	$	2
Annual Pass	$	15

Source: Fallen Leaf Lake/Emerald Bay Transportation Study, LSC Parking Study for trip ends

Total:

Emerald Bay	$ 2,238,543
Fallen Leaf	$ 1,195,971
	$ 3,434,514

Traffic Volumes, Distribution

Emerald Bay

1995 Caltrans Traffic counts	AADT (Daily Volumes)			Scenic Fee applied one way, or half of daily volume	
	Peak	Annual Avg.		Peak	Annual Avg.
Lower entrance marker MP 13.24	4,800	3,900		2,400	1,950
Upper entrance marker MP 19.54	4,300	2,700		2,150	1,350
TRPA Traffic Model Counts (yr. 1995 peak summer day)					
South side of Emerald Bay	5,104			2,552	
North side of Emerald Bay	5,185			2,593	

Assume 80% of half of the trips counted at south MP is applied fee, and 50% of half of the trips counted at north MP is applied fee. Assume that 20% and 50% of one way trips coming from south and north, respectively, are the same travelers going beyond Emerald Bay and returning back to their trip orgins, thus crossing over the other MP counter in both directions. Basically, there is an allowance for a % of trips to not be applied a fee twice.

90 Peak days
275 off peak days
Percentage of full year

Peak days	25%
Off Peak	75%

Weighted Average Calculation for ADT

ADT=.25*(.50 (2,593)+ .80 (2,552 fee trips)+.75(.50 (1,350) + .80 (1,950) fee trips)

2,507

Fallen Leaf Lake Road

1995 Caltrans Traffic counts	AADT (Daily Volumes)			Scenic Fee applied one way, or half of daily volume	
Milepost 11.69	Peak	Annual Avg.		Peak	Annual Avg.
	6,300	3,600		3,150	1,800
TRPA Traffic Model Counts (yr. 1995, peak summer day)					
W. side of Fallen Leaf Lake	6,005			3,003	
E. side of Fallen Leaf Lake	6,557			3,279	

Assume 70% of half of the trips counted at east MP is applied fee, and 50% of half of the trips counted at west MP is applied fee. Assume that 30% and 50% of one way trips coming from east and west, respectively, are the same travelers who are traveling beyond Fallen Leaf Lake and returning back to their trip orgins, thus crossing over the other MP counter in both directions. Basically, there is an allowance for a % of trips to not be applied the fee twice.

90 Peak days
275 off peak days
Percentage of full year

Peak days	25%
Off Peak	75%

Weighted Average Calculation for ADT that is applied fee
ADT=.25*(.50 (3,003)+ .70 (3,279) fee trips)+.75(.7 (1,800) fee trips)
1,885

Percent breakdown of trips
Source: LSC, Parking Study, Tech. Memo. #2

	Emerald Bay trips	% of total	***Fallen Leaf trips***	% of total
Residential Trips/Annual Passes	574	19%	396	13%
Visitor Trips/Daily Passes	2,414	79%	2,345	79%
Beg/End Trip Outside Basin/Daily Passes	80	3%	219	7%
Total	3,068	100%	2,960	100%
Annual Passes		**19%**		**13%**
Daily Passes		**81%**		**87%**

Expenses

Operations

Assume that direct labor for manual collection of tolls is 15 cents for first dollar collected and 5 cents for every dollar collected after.

1st Dollar	2nd Dollar
$ 0.15	$ 0.05

Operations Cost per year

Emerald Bay	$186,543
Fallen Leaf	$ 79,731
Total	$266,274

Also assume 3% annual increase in operations costs.

Capital costs

Manual collection per booth

$ 100,000 per booth

Assume

8 booths (2 at each entrance point)

Total Costs

$ 800,000

Source: Caltrans estimates for Bay Area Bridges

Manual Operations costs mainly accounts for direct manual labor of collecting toll and some admininstration.

Maintained Trail Fee Methodology

1. Obtain data on estimate number of day and overnight permits in Desolation Wilderness, inside and outside basin.

2. Obtain data on percentages of day and overnight permits generated within basin.

3. Obtain data on average people per permit.

4. Calculate total hikers per year for Desolation.

5. Obtain data for annual total of visitors to Spooner Lake.

6. Calculate total annual visitors to major parks in basin with maintained trails.

7. Apply $1 fee for each person.

Source: USFS, NV State Parks, Sand Harbor Office.

Maintained Trail Fee

Six Desolation Trailheads in Basin (in order of visitorship)

Eagle Falls
Glen Alpine
Bayview
Echo
Tallac
Meeks Bay

Estimated number of permits per year (inside and outside basin):
Overnight 7,000
Day 22,500
3% annual growth rate

Notes: Eagle Falls has 60% of Basin day hikers in Desolation. Echo has 33% of Basin overnight campers in Desolation.

70% of all day permits are generated in the basin.
50% of all overnight permits are generated in the basin, per USFS

annual permits in the basin:

Overnight	3,500
Day	15,750

Avg. people per permit:
3.1

Average # of nights per overnight permit
2.3

# of annual hikers at six CA trailheads (permits X avg. people per permit)

Overnight	10,850
Day	48,825
Total	59,675

# of overnight stays at campsites
8,050

# of people nights at campsites
24,955

Spooner Lake
Total Visitors (mostly day visitors)
119,674

Total Day and Overnight Visitors/Hikers
179,349

Source: USFS, trailhead data; NV State Parks, Sand Harbor Office

$1 surcharge for each registered visitor
$ 179,349 Annual total

Revenues by State

$1 per hiker

	# hikers	Revenues
California State Parks	59,675	$ 59,675
Nevada State Parks	119,674	$ 119,674

Total
$179,349

Boat Fuel Tax Methodology

1. Obtain data on gallons of fuel consumed by boats per day in Lake Tahoe.

2. Use assumptions for boating season and number of boats on an average day.

3. Calculate total gallons consumed by boats in Lake. Need to place assumption that boats fill up at the service stations along Marinas and docks.

4. Apply growth factor on total boats and gallons consumed to bring totals to current estimates.

5. Apply a 5 cent per gallon tax on gasoline purchased at Marinas and boating docks.

Source: 1997 TRPA Watercraft Study

Revenue Option #1

Boat Fuel tax

Total Gallons consumed by boats per year
1,198,242

Apply 5 cent gas tax per gallon (assume that most boats fuel at Marinas)
$ 59,912 per year

Apply 10 cent gas tax per gallon (assume that most boats fuel at Marinas)
$ 119,824 per year

Revenue Option #2

Fee for Registered Boats

Percentage of Tahoe Households that own boats (assume one boat per HH)
22%

Total # of Basin Households
44,913

Registered Boats in Basin
10,038

Apply $10 annual registration fee
$ 100,380 per year

Revenue Option #3

Launch Fee at Public Marinas and Boat Ramps

# of launches annually
41,613

Apply $3 per launch fee
$ 124,839 annually

Revenue Option #4

Fees on Buoys, Slips and Boat Ramps in Basin

Apply annual $50 fee per slip, buoy and boat ramp

Public Slips	Public Buoys	Public Pier Moorings	Total
$ 51,198	$ 35,404	$ 1,012	$ 87,614

Private Slips	Private Buoys	Private Pier Moorings	Total
$ 15,052	$ 154,177	$ 94,545	$ 263,774

Grand Total

Slips	Buoys	Boat Ramps	Total
$ 66,250	**$ 189,581**	**$ 95,557**	**$ 351,388**

Boat fuel use

TRPA assumed boat growth rate per year: 1.5%
Assumed boating season: 123 days
Assumed number of boats on average summer day in 1994: 1,324
Assume that boats fuel at marinas and shoreside locations.

Gallons consumed by boats per day in 1994
9,456

Total Gallons consumed in 1994
1,163,088

Source: TRPA Watercraft Study, 1997

Assume growth in boats and fuel use for only two additional years above 1994 figures to get 1999 figures, understading that boat use has declined over time.
boats: 1,364

Total Gallons consumed by boats in 1999 (1.5% growth rate for two years)
1,198,242

Apply 5 cent gas tax per gallon
$ 59,912 annual collections

Apply 10 cent gas tax per gallon
$ 119,824

Registered Boats Methodology

1. Obtain data on percentage of Tahoe Basin households that own boats.
2. Obtain data on number of total households.
3. Assume one boat per household.
4. Determine number of basin households (both permanent and second-home) that own a boat.

Source: JD Franz Survey for this study, TRPA Fair Housing Study.

Additional data:

Total registered boats, broken down, in each county in Tahoe.

Source: CA DMV, NV Div. Of Wildlife, Dept. of Vessel Registrations.

JD Franz Survey

% of Respondents who do not have Tahoe as their primary residence:
15.8%

Percentage of basin residents (both permanent and second home owners) surveyed that own boats:
21.9%

Assume one boat per household

# of housing units in basin, 1995:
44,913
# of households occupied, 1995:
21,875
49%
# of households vacant, 1995 (assume second home owners):
23,038
51%

Assume 0.68% annual growth in households, based on TRPA "Fair Share" Housing Study, 1997

# of housing units in basin, 1998
45,835
# of households occupied, 1998:
22,324
49%
# of households vacant, 1998 (assume second home owners):
23,511
51%

Apply Percentage of boat owners to both occupied and vacant households (total households)
10,038 registered boat owners in basin

Boat Registrations

Nevada
Div. Of Wildlife, Dept. of Vessel Regis.
Registrations from 11/26/97 through 6/30/98

			County			
Size	Douglas	% total co.	Washoe	% total co.	Carson City	% total co.
Less than 13 ft. (most personal watercraft)	885	34%	4,283	36%	736	38%
13 to less than 18 ft.	856	33%	3,813	32%	711	36%
18 to less than 22 ft	651	25%	2,855	24%	395	20%
22 to less than 26 ft	169	6%	571	5%	87	4%
26 to less than 31 ft	43	2%	172	1%	25	1%
31 ft and up	16	1%	52	0%	3	0%
	2,620	100%	11,746	100%	1,957	100%

California
Dept. of Motor Vehicles, Forecasting Div.
as of 12/31/97

	Boat Type		
County	*Pleasure*	*Others*	*Total*
Placer	17,418	285	17,703
% of County Total	98%	2%	100%
El Dorado	12,659	297	12,956
% of County Total	98%	2%	100%
Nevada	8,476	61	8,537
% of County Total	99%	1%	100%
Alpine	115	2	117
% of County Total	98%	2%	100%
Sacramento	43,329	788	44,117
% of County Total	98%	2%	100%

Boat Launch Fee Methodology

1. Obtain data on number of launches at public launch sites for peak weekend day, weekend day, and weekday.

2. Obtain data on number of peak weekend days, weekend days, and weekdays for boating season.

3. Calculate number of launches per type of day for boating season.

4. Apply $3 fee per launch.

Source: 1997 TRPA Watercraft Study.

Launch Fee

Public Site Launches **# launches**

	Peak Weekend Day	Weekend Day	Week Day
Marinas	438	227	119
Boat Ramps	443	311	131
Total	881	538	250

# Peak Weekend Days:	9
# Weekend Days:	18
# Week Days:	96
	123

Total # launches per boating year from public facilities:

Peak Weekend	Weekend Day	Week Day	Total
7,929	9,684	24,000	**41,613**

Apply $3 per launch fee

$ 124,839

Fees on Buoys, Slips, and Piers

1. Obtain data on number of slips and buoys at public marinas.
2. Assume growth of number of buoys and slips to current years estimates.
3. Obtain number of piers in Basin.
4. Make assumption of moorings per pier to get parking capacity of piers.
5. Obtain data on total number of buoys and slips (private and public).
6. Assume growth of number of total buoys and slips to current years estimates.
7. Determine number of moorings at public marinas that cater to long term storage (full boating season for second resident boats).
8. Determine number of moorings at public marinas that cater to short term/visitor storage (daily, weekly rentals of moors).
9. Determine total public moorings.
10. Determine number of private slips, buoys and pier moorings.
11. Apply $50 annual fee to each slip, buoy and pier mooring, including both private and public moorings.

Source: 1997 TRPA Watercraft Study, Contact with select Marinas, Advertising brochures, TRPA staff.

Basin Marinas and Launching Ramps				1994 capacity		1998 capacity (assume 4 yrs. growth over 1994 numbers at 1.5% growth rate per year)			
	Phone	Boat Capacity	Gas Pump	# slips	# buoys	# slips	# buoys	Storage (cater to home owners)	# slips
North Shore									
Sierra Boat Co (Carnelian Bay)	530-546-2552		X	129	15	137	16	Yes	100
N. Tahoe Marina (Tahoe Vista)	530-546-8248		X	30	38	32	40	Y	139
Tahoe Vista Ramp						0	0		
Kings Beach Rec. Area. (N. Tahoe Rec.&Park, sub. Of N. Tahoe PUD)	530-546-7248 530-546-4216					0	0		
						0	0		
East Shore						0	0		
Sand Harbor State Beach	702-831-0494	66 parking spaces on beach				0	0		
Logan Shoals			X	50	0	53	0	No	20
Cave Rock	702-831-0494	60 spaces				0	0		
Zephyr Cove Marina	702-588-3833		X	0	65	0	69	No	
Roundhill Pines Beach (H2O Sports)	702-588-3055 702-588-4155		X	2	70	2	74	No	
						0	0		
South Shore						0	0		
Lakeside Marina	530-541-6626		X	73	0	77	0	N	
Ski Run Marina	530-544-0200 530-541-5448		X	10	94	11	100	N	
Timber Cove Marina	530-544-5387 530-544-2942 888-307-4386		X	0	80	0	85	N	
Beachcomer Marina (SLT Rec. Area Boat Ramp)	530-542-6055					0	0		
Tahoe Keys Marina	530-544-8888 530-541-2155		X	330	0	350	0	Y	100
Camp Richardson Marina (Anchorage Marina)	530-542-6570		X	16	110	17	117	Y	
						0	0		
West Shore						0	0		
Meek's Bay Marina	530-525-7242			112	0	119	0	N	
Obexers Boat Harbor	530-525-7962		X	30	15	32	16	Y	
Homewood Marina (High & Dry Marina)	530-525-5966		X	0	125	0	133	Y	
Sunnyside Boat Harbor	530-583-7201		X	24	24	25	25	Y	
Lake Forest Boat Ramp	530-583-3796					0	0		
Emerald Bay Boat Camp		20				0	0		
Tahoe City Marina	530-583-1039		X			0	0		
Tahoe Boat Company			X	160	32	170	34	Y	200
U.S. Coast Guard									
Pivate									
Elk Point									
Tahoe Keys Homeowners									112
Total			15 stations	966	668	**1,024**	**708**		671
Notes:									
R - rentals									
S - slips									
B - buoys									
Ra - ramps									
Piers (Boat Ramps)									
# of piers	764								
Assumed moorings per pier	2.5								
# of boat ramps at piers	1,910								

# allocated for build out						
# buoys	# launching	# other	Notes			
200	40	160	B			
50	50	50	R, S, B			
	20					
	39					
	90		Launch has Two double ramps			
		19				
	39		Two ramps			
19		20	R, B			
19		20	R, S, B			
		20	R, S, B			
		40	R, B			
20		20	R, B			
	80		Campground by the Lake Boat Ramp			
	50	50	R, S			
30		20	R, B			
	40		S			
20			S, B			
200	50	50	B			
39			R, S, B			
	39		Ra, Tahoe City PUD operated, $7 park per day, $65 annual pass, 3,000			
			R, S, B			
100	50	50				
20						
717	587	519				

Total Slips (Public and Private) in 1994	Total Buoys (Pub.& Priv.) in 1994	Total Pier Moorings in 1994	Total
1,250	3,577	1,910	6,737

Assume 4 yr. Growth at 1.5% per year from 1994 to get 1998 estimates

Total Slips (Public and Private) in 1998	Total Buoys (Pub.& Priv.) in 1998	Total Boat Ramps in 1998	Total
1,325	3,792	2,025	7,141

Total Second Resident Boats Parked for the Whole Season at Public Marinas

(# of 1998 slips, buoys and boat ramps at marinas that have long term storage, tend to have higher slip and buoy charges)

(assume 1% of all piers are public and are used for second resident use)

Slips	Buoys	Pier Moorings	Total
762	381	20	1,163

Total Touist Catered slips and buoys at Public Marinas

(# of 1998 slips and buoys at marinas that cater to short term storage of tourist boats, tend to have lower slip and buoy charges)

Slips	Buoys	Pier Moorings	Total
262	328	0	589

Total Second Resident and Tourist slips, buoys and boat ramps

Public Slips in 1998	Public Buoys in 1998	Pier Moorings in 1998	Total
1,024	708	20	1,752

Private Resident Slips, Buoys and Boat Ramps

Private Slips in 1998	Private Buoys in 1998	Private Pier Moorings in 1998	Total
301	3,084	1,891	5,275

Apply fee of $50 per slip, buoy and boat ramp per boating year $ 50.00

Public Slips	Public Buoys	Public Pier Moorings	Total
$ 51,198	$ 35,404	$ 1,012	$ 87,614

Private Slips	Private Buoys	Private Pier Moorings	Total
$ 15,052	$ 154,177	$ 94,545	$ 263,774

Grand Total

Slips	*Buoys*	*Pier Moorings*	*Total*
$ 66,250	*$ 189,581*	*$ 95,557*	*$ 351,388*

Fire Suppression Parcel Fee Methodology

1. Obtain data on parcels in basin per county and land use.
2. Apply $50 annual fee per parcel on all parcels except public service and public open space parcels.

Source: TRPA GIS parcel data.

Fire Suppression

Parcel Type

County	Residential	Tourist	Commercial	Pub. Service	Recreation	Open Space (private)	Open Space (pub.)	Total
Douglas	3,808	8	106	34	42	360	667	5,025
Washoe	6,211	7	182	43	18	511	1,240	8,212
Placer	9,501	89	316	173	193	2,680	1,909	14,861
El Dorado	16,008	199	411	128	65	5,313	7,784	29,908
Total	35,528	303	1,015	378	318	8,864	11,600	58,006
GrandTotal	58,006							

Source: 1995 TRPA GIS data.

Alternative #1

$50 annual assessment on all parcels except Pub.Service and Public Open Space.

parcels 46,028

Revenues

$ 2,301,400

Alternative #2

$50 annual assessment on all parcels

$ 2,900,300

Revenues by State

Fire Suppression

$50/parcel

Nevada

Douglas	$ 216,200
Washoe	$ 346,450
Total	$ 562,650

Total
$ 2,301,400

California

Placer	$ 638,950
El Dorado	$ 1,099,800
	$ 1,738,750

Assessment Fee for Curbs and Drainage (non-residential) Methodology

1. Obtain data on parcels in basin per county and land use.
2. Apply $50 annual fee per parcel on all parcels except residential parcels, public service parcels, private open space parcels, and public open space parcels.

Source: TRPA GIS parcel data.

Assessment Fee for Curbs and Drainage (Residential) Methodology

1. Obtain data on parcels in basin per county and land use.
2. Apply $50 annual fee per parcel on only Residential parcels.

Source: TRPA GIS parcel data.

Assessments on Curb and Drainage

	Parcel Type						
County	Residential	Tourist	Commercial	Pub. Service	Recreation	Open Space (private)	Open Space (pub.)
Douglas	3,808	8	106	34	42	360	667
Washoe	6,211	7	182	43	18	511	1,240
Placer	9,501	89	316	173	193	2,680	1,909
El Dorado	16,008	199	411	128	65	5,313	7,784
Total	35,528	303	1,015	378	318	8,864	11,600
GrandTotal	58,006						

Alternative #1

$50 Assessment on non-open space (Residential, Tourist, Recreation and Commercial)

$ 1,858,200 # of parcels 37,164

Alternative #2

$50 Assessment on residential only

$ 1,776,400 # of parcels 35,528

Alternative #3

$50 Assessment on non-residential, non-open space (tourist, Recreation and commercial)

# of parcels 1,636

$ 81,800

Revenues by State

Non-Residential, Non-Open Space Parcels

$50/parcel

Nevada

Douglas	$	7,800
Washoe	$	10,350
Total	$	18,150

Total
$ 81,800

California

Placer	$	29,900
El Dorado	$	33,750
	$	63,650

Residential Only

$50/parcel

Nevada

Douglas	$	190,400
Washoe	$	310,550
Total	$	500,950

Total
$ 1,776,400

California

Placer	$	475,050
El Dorado	$	800,400
	$	1,275,450

Gas Tax Methodology for 12 Northern California Counties and 3 NV basin Counties.

1. Obtain data on gallons consumed per vehicle per year (total gallons distributed divided by registered vehicles)

2. Obtain data on total registered vehicles per each county.

3. Calculate gallons consumed per county.

4. Apply 1 cent tax per gallon consumed to get taxes raised.

Sources: DMV, CA and NV, CA State Board of Equalization, NV Department of Taxation, Annual Report, 1996-97.

1 cent Gas tax collections from Northern Cal. Counties and 3 Nevada Counties

Gallons of Fuel Distributed in CA in FY 1996-97
13,720,332,000

Total Registered Vehicles in California
22,310,000

Gallons per Vehicle
615

	Reg. Veh 1997	Gallons	Tax Raised
Alameda	1,019,442	626,942,299	6,269,423
SF	418,510	257,377,685	2,573,777
Contra Costa	713,777	438,962,681	4,389,627
Santa Clara	1,304,703	802,373,748	8,023,737
Solano	280,811	172,694,762	1,726,948
San Mateo	637,389	391,985,150	3,919,851
Marin	212,258	130,535,645	1,305,356
Napa	108,149	66,510,093	665,101
Sonoma	389,761	239,697,459	2,396,975
Sacto	860,795	529,376,655	5,293,767
El Dorado	148,121	91,092,304	910,923
Placer	214,709	132,042,975	1,320,430
	6,308,425	3,879,591,457	38,795,915

Gallons of Fuel Distributed in NV in FY 1996-97
825,672,041

Total Registered Vehicles in Nevada
1,347,704

Gallons per Vehicle
613

	Reg. Veh 1997	Gallons	Tax Raised
Washoe	237,503	145,506,422	1,455,064
Carson City	47,915	29,355,167	293,552
Douglas	40,401	24,751,708	247,517
	325,819	199,613,297	1,996,133

Registered Vehicle Fee Methodology in Northern California and Nevada Counties in Basin.

1. Obtain data on number of registered vehicles in 12 Northern California Counties and Nevada Counties in Basin.

2. Apply $1 fee on total registered vehicles.

Source: DMV, CA and NV.

% change vehicle regis.

	1994	1997	% change
Alameda	1,025,157	1,019,442	-0.56%
SF	423,024	418,510	-1.07%
Contra Costa	721,504	713,777	-1.07%
Santa Clara	1,282,183	1,304,703	1.76%
Solano	284,093	280,811	-1.16%
San Mateo	662,797	637,389	-3.83%
Marin	217,851	212,258	-2.57%
Napa	108,959	108,149	-0.74%
Sonoma	389,263	389,761	0.13%
Sacto	904,094	860,795	-4.79%
El Dorado	146,859	148,121	0.86%
Placer	203,829	214,709	5.34%
	6,369,613	6,308,425	-0.96%

	1994	1997	%change
Washoe	211,468	237,503	12.31%
Carson	42,298	47,915	13.28%
Douglas	35,464	40,401	13.92%
	289,230	325,819	12.65%

Visitor Days Methodology

1. Obtain data on number and type of visitors in basin annually.

2. Obtain data on percentage of visitors by origin per season.

3. Obtain data on average visitor nights per origin per season.

4. Conduct weighted average on number of visitor nights per season to get overall average visitor nights per season.

5. Assume 20% visitors come during Fall, 35% during winter, and 40% during summer, based on historical proportion of visitor days.

6. Conduct weighted average to get overall average number of nights per year.

7. Determine number of annual visitor days by multiplying number of overnight visitors by average number of nights, then adding day visitors and local resident visitors.

Source: SLT Chamber of Commerce, 1997 North Lake Tahoe Resort Association Visitor Profile, 1991 TRPA Threshold Evaluation Study.

Calculations for Visitor Days

Type of Visitors	# of visitors
Overnight Visitors	1,800,000
Day Visitors (20% of total)	430,000
Local Residents	53,000
Total Visitors/Yr	***2,283,000***

Source: SLT Chamber of Commerce

Visitor Origins per Season

	Winter	Summer	Fall
Northern California	50%	39%	33%
Southern/Central California	12%	20%	26%
Other States	33%	33%	35%
Foreign	5%	8%	6%
	100%	100%	100%

Source: N. Lake Tahoe Resort Assoc. Survey 1997.

Average night stays

	Winter	Summer	Fall
Northern California	3.0	2.8	3.4
Southern/Central California	3.6	3.2	4.1
Other States	4.5	3.9	4.2
Other States/ Foreign	6.5	5.2	7.7
	17.6	15.1	19.4

Source: N. Lake Tahoe Resort Assoc. Survey 1997.

Weighted Avg. for # of nights per season.

Winter
Avg. #nights = NorCal visitors (avg nights) + SoCal visitors (avg. nights)+…
3.7

Summer
3.4

Fall
4.1

Assume 20% of visitor nights during Fall, based on estimated proportion of historical visitor days.
35% of visitor nights during Winter
45% of visitor nights during Summer

Weighted Avg. for Overall number of nights
= .20(avg. fall nights) + .35(avg. winter nights) + .45(avg. summer nights)
3.7

Visitor Days
Days = (Overall Avg. nights * # overnight visitors)+day visitors+locals
7,106,010

APPENDIX 2

BASELINE FUNDING

Current revenue estimates that could go to EIP Projects, or are earmarked for construction in the basin.

Local Sources

TRPA	Yr. 1997 Year end balance	Yr. 1998 Additions	Balance	
WQ Mitigation Fees	2,948,799	-140,167		
SEZ Restoration	1,519,779	199,149		
AQ Mitigation Fees	1,397,558	306,932		
Bitterbrush Settlement	506,035	-407,981		
Shorezone Mitigation Fees	30,014	25,806		
Rental Car Mitigation Fees	22,221	-6,321		
Other		212,454		
Subtotal	6,424,407	189,872	***6,614,279***	Avail. revenues

City of South Lake Tahoe	Yr. 1997	Yr. 1998	Yr. 1999	Total
Signal Modification; Right Turn Lane at Ski Run	400,000			400,000
Bijou Area Water Quality		2,000,000		2,000,000
East Pioneer Trail		1,000,000		1,000,000
Sierra Tract Residential		750,000		750,000
Trout Creek-Pioneer to Black			1,200,000	1,200,000
Bart SEZ Restoration				
Operations and Maintenance				159,000
Subtotal	400,000	3,750,000	1,200,000	***6,509,000***

Douglas County

Water District Fund	400,000	
Tahoe-Douglas Trans. District	880,102	
Erosion Control in Tahoe Basin	479,000	
Subtotal	***1,759,102***	for Basin construction projects in 1997-98

Placer County

Tahoe City Urban Improvement Project	10,200,000	
Erosion Control Projects	7,500,000	Programmed per year
Operations and Maintenance	85,000	Sealing per year
Subtotal	***17,700,000***	

North Lake Tahoe Resort Association ***6,000,000*** TOT collections for 6 years

Tahoe City PUD ***500,000*** spent on EIP Projects per year

Washoe County

Crystal Bay Beautification Program	***1,600,000***	

South Tahoe PUD

Pump Stations/Soil Restoration at Upper Truckee	200,000	
Sewer agencies study	10,000	
Subtotal	***210,000***	funds for construction

CTS Mitigation Fund as of 12/31/97

Total Amount Due per MOU	1,030,033	Goal
MOU Payments to Date	538,699	
Payments to CTS outside of MOU	95,000	
Distributions to S. Shore TMA	137,880	
Balance:	***495,819***	funds available

GRAND TOTAL **$ 41,388,200**

APPENDIX 3

List of People Communicated With

	Name	Title	Agency
1	Bob McComber	Park Supervisor	CA State Parks, Sierra District Park & Recreation
2	Staff	Customer Service	Caesars
3	Staff	Customer Communications	California Department of Motor Vehicles
4	Staff	MIS/Forecasting	California Department of Motor Vehicles
5	Tom McDonald	Fuel Technology	California Energy Commission
6	Dennis Machita	Executive Director	California Tahoe Conservancy
7	Ray Lacey	Staff	California Tahoe Conservancy
8	Staff	Customer Service	Cal-Neva
9	Charles Price	Engineer/Electronic Toll	Caltrans, District 4
10	Staff		Campground by the Lake
11	Joy Lyons	Parking Superintendent	City of Monterey, Monterey County
12	Pam	Finance	City of Monterey, Monterey County
13	Bruce Budman	Accounting	City of South Lake Tahoe
14	Mary Kaye	Planner	City of South Lake Tahoe
15	Tim Oliver	Engineer	City of South Lake Tahoe
16	Scott Rogers	Street Superintendent	City of South Lake Tahoe
17	Staff	Finance	City of St. Helena, Napa County
18	Staff	Building Department	El Dorado County
19	Carol Glatfelter	Transportation	El Dorado County Transportation Commission
20	Staff	Customer Service	Harrahs
21	Staff	Customer Service	Harvey's
22	Staff	Customer Service	Horizon
23	Dennis Erickson	Engineer	Hyatt Regency
24	Steve	Facility Superintendent	Incline Village General Improvement District Park & Recreation
25	Lea Kaufman	Principal	Kaufman Planning
26	Parking attendant		Kings Beach Park and Recreation
27	Staff	Various Marinas	Lake Tahoe Basin
28	Sharon Dendanio	Staff	Lake Tahoe Visitors Authority
29	Gordon Shaw	Principal	Leigh, Scott & Cleary, Inc.
30	Tom Clausen	Bridge Manager	Metropolitan Transportation Commission
31	Staff	Records Section	Nevada Department of Motor Vehicles
32	Tanya	Vessel Registration	Nevada Department of Wildlife

33 Dave Ziegler	Senior Research Analyst	Nevada Legislative Counsel Bureau
34 Brad Kosh	Park Supervisor	Nevada State Parks, Sand Harbor
35 Phil McKenney	Executive Director	North Lake Tahoe Resort Association
36 Ron McIntyre	Chairman	North Lake Tahoe Resort Association
37 Staff		North Tahoe Marina
38 Staff		Obexers Marina
39 John Hassenplug	General Manager	North Tahoe Public Utility District
40 Staff	17-mile drive	Pebble Beach Company, Monterey
41 Staff	Building Department	Placer County
42 Bob Costa	Engineering	Placer County
43 Staff	Planning Department	Placer County, Tahoe Office
44 Katie	Revenue Services	Placer County
45 Clark Newton	Roads Department	Placer County
46 Julie Williams	Accounting & Finance	Reno-Sparks Convention Bureau
47 Staff		Ski Run Marina
48 Bob Baer	General Manager	South Tahoe Public Utility District
49 Jeff Reynolds	Research	State Board of Equalization
50 Carl Ribando	Principal	Strategic Marketing Group
51 Wayne Cromwell	Engineer	Tahoe Biltmore
52 Staff		Tahoe City Marina
53 Cindy Gustafson	Dir. of Resource Dev. And Community Relations	Tahoe City Public Utility District
54 Andrew Strain	Planning Staff	Tahoe Regional Planning Agency
55 Carl Hasty	Planning Staff	Tahoe Regional Planning Agency
56 Colleen Shades	Planning Staff	Tahoe Regional Planning Agency
57 David Atkins	GIS Staff	Tahoe Regional Planning Agency
58 Gabby Barrett	Planning Staff	Tahoe Regional Planning Agency
59 Jim Allison	Planning Staff	Tahoe Regional Planning Agency
60 Pam Drum	Public Info. Officer	Tahoe Regional Planning Agency
61 Richard Wiggins	Planning Staff	Tahoe Regional Planning Agency
62 Staff		Tahoe Valley Campgrounds
63 Don Lane	Forester	United States Forest Service
64 Staff		Zephyr Cove Marina

Document Sources

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2 California Tahoe Conservancy, Progress Report.
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21 TRPA, "Environmental Improvement Program for the Lake Tahoe Region".
22 TRPA, "Fallen Leaf Lake/Emerald Bay Transportation Study".
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